VILLAGE OF OSSINING	BOARD OF TRUSTEES
In the Matter of the Application of **OSSINING RIVER ASSOCIATES, INC.**, Petitioner, To adopt zone text amendments which would be applicable in the CDD and PW zoning Districts	**PETITION** **to** **Adopt Zone Text Amendments**

THE PETITIONERS, by and through their attorney, Joseph P. Eriole, Esq., a duly licensed attorney in the State of New York, set forth the following as a Petition for relief herein:

FIRST: The Petitioners are the record owners of the property in connection with which this Petition is made. **Exhibit A** (the "Property").

SECOND: The Property consists of approximately 14.122 unimproved acres, primarily in the CDD zoning district, with 3.12% in the S-125 zoning district.

THIRD: The subject premises is depicted on the current Village of Ossining Tax Map as Section, Block and Lot Number 89.15-1-73.

FOURTH: The Property is bounded by property in the S-125 zone to the north, the GB zone to the east, the CDD zone to the south, and the S-125 and CDD zones to the west. Existing Conditions Map attached hereto as **Exhibit B**.

FIFTH: The Petitioner proposes to develop the property by constructing 198 residential units with amenities for its residents, as well as constructing a new firehouse, more or less on the site of the existing firehouse on Snowden Avenue, entirely at the Petitioner's expense, and under the direction and specifications of the Village Manager, Engineer, and other designees as the Village Board so designates (the "Project"). The Conceptual Site Plan and other renderings and graphics depicting the proposed development are attached hereto as **Exhibit C.**

SIXTH: The Petitioners requests that zone text amendments be adopted which would provide for an overlay district applicable in the CDD and PW districts under certain strict and

specific criteria, each of which is specially designed to enhance and increase public open space, affordable housing opportunities, and public capital improvement while ensuring careful development at a density in keeping with the surrounding zoning and recent approved projects in the vicinity. The proposed text amendments are attached hereto as **Exhibit D**.

SEVENTH: The Petitioner has made a concurrent application to the Planning Board for Site Plan review (all other permits or approvals under the Planning Board's purview are generally referenced here as part of the "Site Plan Review" process). A Long Form EAF, Fiscal Impact Analysis, and Traffic Study, have also been submitted. **Exhibit E**.

EIGHTH: Petitioner submits that the zone text amendment and site plan review of the Project should be considered jointly under SEQRA to avoid unlawful segmentation (the "Action"), and that the Action will be a Type I Action with coordinated SEQRA Review under the applicable regulations of the Environmental Conservation Law of New York State [6 NYCRR Part 617 et. seq.

NINTH: Procedurally, the Petitioner respectfully submits that the review entails concurrent review of the Petition and the Site Plan as follows:

(i) Receipt of the Petition by the Village Board, referral of the Petition to the Planning Board for its recommendation on the zone text amendments, and makes any other referrals required for such action under state or local law;

(ii) If the Village Board determines that it would like to serve as Lead Agency under SEQRA, it should circulate its notice of intent to act as lead agency at the time of the referral to the Planning Board;

(iii) The Planning Board acknowledges receipt of the Site Plan Review application and the referral from the Village Board. If the Village Board has not declared its intent to act as lead

agency, the Planning Board should circulate its notice of intent to act as lead agency at the time of the receipt of the site plan application and Village Board referral;

(iv) The Planning Board conducts the SEQRA and Site Plan reviews concurrently, in order to take the requisite hard look at the environmental impacts of the zone text amendment vis-à-vis the proposed development;

(v) After conducting the appropriate impacts analysis and conducting the legally required public review process including but not limited to public hearings, the Planning Board, when it deems appropriate under the law, will make a SEQRA determination of significance, culminating in either a Negative Declaration or an Environmental Findings Statement;

(vi) Once the SEQRA process has been concluded, the Planning Board will make a recommendation on the zone text amendments to the Village Board. The Village Board will then conduct a public hearing on the rezoning, unless that public hearing has been jointly held as part of the Planning Board's SEQRA and Site Plan review process;

(vii) With SEQRA and the Public Hearing on the zone text amendments concluded, the Village Board may vote on the adoption of the zone text amendments;

(viii) If the zone text amendments are adopted, the Planning Board may then vote on the Site Plan Application.

TENTH: It is respectfully submitted that the proposed zone text amendments are in keeping with the purposes of the Village of Ossining zoning ordinance generally, with the principles and purposes of the CDD and PW districts in particular, and with the Village of Ossining Comprehensive Plan and all other planning documents of the Village and the region.

ELEVENTH: It is respectfully submitted that the proposed rezoning serves the purposes, health, welfare, and safety of the Village in general and all of its residents, in that it encourages

appropriate high density where that density can be coupled with open space, affordable housing, and public capital projects or improvements which exceed those benefits under the current zoning code, while still preserving the identified features of properties within those districts. As an overlay district, it will be available to any property owner who can meet the criteria, and not merely to the Petitioner; however, the standards which must be met to qualify for the proposed overlay are so high, and require such a substantial commitment of the developer to the public good at the developer's expense, that the environmental impacts of the zone text amendments are easily contemplated, and, indeed, the impacts should be positive, rather than adverse.

WHEREFORE, upon this Petition and all other submissions and attachments hereto, and all prior and other proceedings and submissions had herein, Petitioners pray that the Village Board adopt the zone text amendments proposed herein, and authorize all necessary acts, amendments, local laws, and transactions necessary to effectuate such zone text amendments.

Respectively Submitted,

THE ERIOLE LAW FIRM, P.C.

Joseph P. Eriole, Esq., Principal

VERIFICATION

STATE OF NEW YORK)
COUNTY OF ULSTER)ss.:

JOSEPH P. ERIOLE, ESQ., being duly sworn, deposes and says:

I am the Attorney representing the Petitioner herein; I have read the foregoing Zoning Petition, know the contents thereof and the same is true to my knowledge, except as to those matters therein stated to be alleged upon information and belief, and as to said matters I believe them to be true. I make this affirmation on behalf of the Petitioner as the Petitioner's duly authorized representative and because my principal office is located outside the County in which the Petitioner is situate.

May 12, 2017

Joseph P. Eriole, Esq.

JOSEPH P. ERIOLE, ESQ. ■ **THE ERIOLE LAW FIRM, P.C** ■ P.O. Box 4031 ■ Kingston, NY 12402 ■ 845.417.4267 ■ erioleesq@gmail.com

EXHIBIT A

V07490229

LIBER 9873 PAGE 156

Form 8002* 5/85-2SH—Bargain and Sale Deed, with Covenant against Grantor's Acts—Individual or Corporation. (single sheet)

CONSULT YOUR LAWYER BEFORE SIGNING THIS INSTRUMENT—THIS INSTRUMENT SHOULD BE USED BY LAWYERS ONLY.

THIS INDENTURE, made the 15th day of August , nineteen hundred and ninety

BETWEEN OSSINING RIVER ASSOCIATES, INC., a domestic corporation having its office and place of business at 51 Route 100, Briarcliff Manor, New York 10510

party of the first part, and OSSINING RIVER ASSOCIATES, INC., a domestic corporation having its office and place of business at 51 Route 100, Briarcliff Manor, New York 10510

party of the second part,

WITNESSETH, that the party of the first part, in consideration of Ten Dollars and other valuable consideration paid by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or successors and assigns of the party of the second part forever,

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the Village of Ossining, Town of Ossining, County of Westchester and State of New York, being more particularly bounded and described in Schedule A attached hereto and made a part hereof.

TAX MAP DESIGNATION

Dist.

Sec. 3

Bl. 1

Lot(s): 1

TOGETHER with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above described premises to the center lines thereof; TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises; TO HAVE AND TO HOLD the premises herein granted unto the party of the second part, the heirs or successors and assigns of the party of the second part forever.

AND the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been encumbered in any way whatever, except as aforesaid.
AND the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.
The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

IN WITNESS WHEREOF, the party of the first part has duly executed this deed the day and year first above written.

IN PRESENCE OF:

OSSINING RIVER ASSOCIATES, INC.

By:

SCHEDULE A

Beginning at a point on the westerly side of the Old Croton Aqueduct at the division line between the premises herein described and premises of the Village of Ossining; running thence southwesterly and along said division line, South 20 degrees 38' 50" West 218.43 feet to the northerly line of lands now or formerly of G. Dermer at a point which is distant westerly 102.54 feet from a point on the westerly side of Snowden Avenue which is marked by the division line between the northerly line of premises of G. Dermer and southerly line of the premises of the Village of Ossining; running thence along the northerly line of said lands of G. Dermer and continuing along the northerly line of lands acquired by The People of The State of New York for the "Hudson River Expressway" by Notice of Appropriation dated August 19, 1969, recorded August 27, 1969, in Liber 6879 Cp. 88, designated herein as Parcel No. 10, Map No. 4. "Hudson River Expressway", filed July 31, 1968, in Westchester Count Clerk's Office as Map No. 16204, the following two courses and distances: North 69 degrees 21' 10" West 82.46 feet; and North 77 degrees 22' 28" West 916.28 feet to the easterly line of Parcel No. 8 on said "Taking Map" No. 16204; running thence northwesterly along said Parcel No. 8 on said Map No. 16204, acquired by The People of the State of New York by the Notice of Appropriation hereinabove mentioned and thence northeasterly along lands now or formerly of Curtis and Patricia Buttenheim, the following two courses and distances: North 9 degrees 02' 49" West 250.98 feet; and North 18 degrees 26' 40" East 166.98 feet to the southerly side of a right-of-way known as Sandy Drive; running thence easterly and northeasterly along said southerly side of Sandy Drive, the following courses and distances: On a curve to the left having a radius of 102.27 feet a distance of 40.22 feet to a point of tangency; thence South 77 degrees 10' 10" East 37.51 feet to a point of curve to the left; thence on said curve to the left having a radius of 139.40 feet a distance of 127.70 feet to a point of compound curve; thence on said curve, still to the left, having a radius of 268.86 feet a distance of 100.52 feet to the lands now or formerly of Winterrich; running thence southeasterly and northeasterly along said land of Winterrich, the following course and distance: North 24 degrees 20' 20" West 36.02 feet; thence easterly on a curve to the left having a radius of 411.67 feet, a distance of 59.62 feet; running thence north 17 degrees 56' 10" east a distance of 82.58 feet; thence easterly on a curve to the right having a radius of 145.85 feet, a distance of 113.84 feet; running thence North 62 degrees 19' 30" East 82.76 feet to the southerly side of a roadway known as Beach Road; thence easterly along the same roadway on a curve to the left having a radius of 75.98 feet, a distance of 23.63 feet; running thence South 49 degrees 36' 52" West a distance of 159.33 feet; thence on a curve to the left having a radius of 44.23 feet a distance of 31.45 feet; running thence South 8 degrees 52' 04" West

SCHEDULE A, cont'd

104.54 feet; thence along a curve to the left having a radius of 17.00 feet a distance of 29.45 feet; running thence North 89 degrees 36' 11" East a distance of 95.12 feet; running thence North 57 degrees 56' 00" East a distance of 326.05 feet to the westerly side of the Old Croton Aqueduct aforementioned; running thence southerly along said westerly side of the Old Croton Aqueduct, the following two courses and distances: South 26 degrees 38' 20" East 616.38 feet to a point of curve; and thence along said curve to the right, having a radius of 967 feet, a distance of 181.84 feet to the lands of the Village of Ossining or place of BEGINNING

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19 , before me personally came

to me known to be the individual described in and who executed the foregoing instrument, and acknowledged that executed the same.

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19 , before me personally came

to me known to be the individual described in and who executed the foregoing instrument, and acknowledged that executed the same.

STATE OF NEW YORK, COUNTY OF ss:

On the 15TH day of August 1990 , before me personally came George Facchiano to me known, who, being by me duly sworn, did depose and say that he resides at No. Briarcl. Manor, N.Y. ; that he is the Pres. Agent of Ossing River Associates, Inc. , the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation, and that he signed h(S name thereto by like order.

RUDOLPH C. LEAR
NOTARY PUBLIC, State of New York
No. 03-2205257
Qualified in Westchester County
Term Expires February 28, 1992

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19 , before me personally came the subscribing witness to the foregoing instrument, with whom I am personally acquainted, who, being by me duly sworn, did depose and say that he resides at No. ; that he knows to be the individual described in and who executed the foregoing instrument; that he, said subscribing witness, was present and saw execute the same; and that he, said witness, at the same time subscribed h name as witness thereto.

Bargain and Sale Deed
WITH COVENANT AGAINST GRANTOR'S ACTS

TITLE NO.

OSSINING RIVER ASSOCIATES, INC.

TO

OSSINING RIVER ASSOCIATES, INC.

SECTION 3
BLOCK 1
LOT 1
~~COUNTY~~ TOWN Ossining
TAX BILLING ADDRESS

Recorded At Request of Ticor Title Guarantee Company
RETURN BY MAIL TO:

Wormser, Kiely, Galef & Jacobs
709 Westchester Avenue
P.O. Box 290, Gedney Station
White Plains, New York 10604
Attention: Lawrence R. Dittelman, Esq.
Zip No.

Distributed by
TICOR TITLE GUARANTEE

RESERVE THIS SPACE FOR USE OF RECORDING OFFICE

LIBER 9873 PAGE 160

WESTCHESTER COUNTY RECORDING AND ENDORSEMENT PAGE
(THIS PAGE FORMS PART OF THE INSTRUMENT)

ADDITIONAL COMMENTS	RECORD AND RETURN
	TITLE COMPANY NUMBER

THE FOREGOING INSTRUMENT WAS ENDORSED FOR THE RECORD AS FOLLOWS:

TYPE OF INSTRUMENT DED
(SEE CODES FOR DEFINITIONS)

THE PROPERTY IS SITUATED IN WESTCHESTER COUNTY, N.Y. IN THE

- 02 TOWN OF BEDFORD
- 06 TOWN OF CORTLANDT
- 09 TOWN OF EASTCHESTER
- 11 TOWN OF GREENBURGH
- 12 TOWN OF HARRISON
- 16 TOWN OF LEWISBORO
- 17 TOWN OF MAMARONECK
- 19 TOWN OF MT. KISCO
- 20 TOWN OF MT. PLEASANT
- 21 CITY OF MT. VERNON
- 22 TOWN OF NEW CASTLE
- 23 CITY OF NEW ROCHELLE
- 24 TOWN OF NORTH CASTLE
- 26 TOWN OF NORTH SALEM
- 28 TOWN OF OSSINING
- 30 CITY OF PEEKSKILL
- 31 TOWN OF PELHAM
- 35 TOWN OF POUND RIDGE
- 36 CITY OF RYE
- 37 TOWN OF RYE
- 38 TOWN OF SCARSDALE
- 39 TOWN OF SOMERS
- 42 CITY OF WHITE PLAINS
- 43 CITY OF YONKERS
- 44 TOWN OF YORKTOWN

LIBER 9873
PAGE 156

STAT'Y CHARGE 5.25
REC'ING CHARGE 12
REC. MGT. FUND 4.75
CROSS REFERENCE
CERT/RECEIPT

TOTAL 22

$ 0 CONSIDERATION

RECEIVED
$ 0
AUG 17 1990
REAL ESTATE TRANSFER TAX
WESTCHESTER COUNTY
754

MORTGE. DATE
MORTGE. AMOUNT
EXEMPT YES NO
REC'D TAX ON ABOVE MTGE:
BASIC $
ADDTL $
SUBTOTAL $
SPECIAL $
TOTAL $
SERIAL No.
DWELLING: ☐ 1-6 ☐ OVER

☐ DUAL TOWN
☐ DUAL COUNTY/STATE

☐ HELD
☐ NOT HELD

ANDREW J. SPANO
WESTCHESTER COUNTY CLERK

TERMINAL No. 9279074 DATE RETURNED

EXAMINED BY
WITNESS MY HAND AND OFFICIAL SEAL
Andrew J. Spano
ANDREW J. SPANO
WESTCHESTER COUNTY CLERK

000108B000 08/17/90CFA/DE 14:57 22.00

RECEIVED
90 AUG 17 PM 2:52
ANDREW J SPANO
WESTCHESTER COUNTY CLERK

THE RECORDING DATE OF THIS INSTRUMENT AS INDICATED BELOW IS THE OFFICIAL DATE ON WHICH THE WESTCHESTER COUNTY CLERK RECEIVED THIS INSTRUMENT.
QUESTIONS REGARDING DELAYS PRIOR TO THIS DATE SHOULD BE ADDRESSED TO YOUR REPRESENTATIVE OR ATTORNEY.

FORM 3266 Standard N.Y.B.T.U. Form 0007 Bargain

Q04286085

CONSULT YOUR LAWYER BEFORE SIGNING THIS INSTRUMENT—THIS INSTRUMENT SHOULD BE USED BY LAWYERS ONLY.

LIBER 8388 PAGE 34

THIS INDENTURE, made the 21 day of March , nineteen hundred and eighty-six

BETWEEN

GEORGE PACCHIANA and RONALD FRATOLILL
51 Route 100, Briarcliff Manor, New York 10510

party of the first part, and

OSSINING RIVER ASSOCIATES, INC., a domestic corporation having its office and place of business at 51 Route 100 Briarcliff Manor, New York, 10510

party of the second part,

WITNESSETH, that the party of the first part, in consideration of ONE DOLLAR and oo/100

----------($1.00)---------- dollars,

lawful money of the United States, paid

by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or successors and assigns of the party of the second part forever,

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the Village of Ossining, Town of Ossining, County of Westchester and State of New York, being more particularly bounded and described as follows:

BEGINNING at a point on the westerly side of the Old Croton Aqueduct at the division line between the premises herein described and premises of the Village of Ossining; running thence southwesterly and along said division line, South 20 degrees 38' 50" West 218.43 feet to the northerly line of lands now or formerly of G. Dermer at a point which is distant westerly 102.54 feet from a point on the westerly side of Snowden Avenue which is marked by the division line between the northerly line of premises of G. Dermer and southerly line of premises of the Village of Ossining; running thence along the northerly line of said lands of G. Dermer and continuing along the northerly line of lands acquired by The People of the State of New York for the "Hudson River Expressway" by Notice of Appropriation dated August 19, 1969, recorded August 27, 1969, in Liber 6879 Cp. 88, designated herein as Parcel No. 10, Map No. 4, "Hudson River Expressway", filed July 31, 1968, in Westchester County Clerk's Office as Map No. 16204, the following two courses and distances: North 69 degrees 21' 10" West 82.46 feet; and North 77 degrees 22' 28" West 916.28 feet to the easterly line of Parcel No. 8 on said "Taking Map" No. 16204; running thence northwesterly along said Parcel No. 8 on said Map No. 16204, acquired by The People of the State of New York by the Notice of Appropriation hereinabove mentioned and thence northeasterly along lands now or formerly of Curtis and Patricia Buttenheim, the following two courses and distances: North 9 degrees 02' 49" West 250.98 feet; and North 18 degrees 26' 40" East 166.98 feet to the southerly side of a right-of-way known as Sandy Drive; running thence easterly and northeasterly along said southerly side of Sandy Drive, the following courses and distances: On a curve to the left having a radius of 102.27 feet, a distance of 40.22 feet to a point of tangency; thence South 77 degrees 10' 10" East 37.51 feet to a point of curve to the left; thence on said curve to the left having a radius of 139.40 feet a distance of 127.70 feet to a point of compound curve; thence on said curve, still to the left, having a radius of 268.86

feet, a distance of 100.52 feet to lands now or formerly of Winterrich; running thence southeasterly and northeasterly along said land of Winterrich, the following two courses and distances: South 24 degrees 20' 20" East 55.86 feet; and North 57 degrees 56' 00" East 487.16 feet to the westerly side of the Old Croton Aqueduct aforementioned; running thence southerly along said westerly side of the Old Croton Aqueduct, the following two courses and distances: South 26 degrees 38' 20" East 616.38 feet to a point of curve; and thence along said curve to the right, having a radius of 967 feet, a distance of 181.84 feet to lands of the Village of Ossining and the point or place of BEGINNING.

TOGETHER with the right of ingress and egress, in common with others, over Sandy Drive to and from Beach Avenue, a public street;

TOGETHER with Appurtenant Rights and Easements with others, to connect to a Sewer Easement over lands of Filix-Metal Products Corp., and others adjoining lands of the People of the State of New York on the South as more particularly set forth in a certain Agreement dated June 4, 1956, recorded April 23, 1956, in liber 5797 Cp. 234;

TOGETHER with the right and easement to construct, maintain, operate and repair a Sanitary Sewer line over, under, across and upon the lands of The People of the State of New York (Notice of Appropriation recorded in Liber 6879 Cp 88), continuing over lands of Elissa Lord and over lands of Filix-Metal Products Corp. to connect with the Appurtenant Easement recorded in Liber 5797 Cp. 234, immediately above referred to.

SUBJECT TO:

Permanent easement for drainage appropriated in liber 7726 of Conveyances, page 713, and as delineated on Map No. 20625.

Sewer easement contained in instrument recorded in liber 7514 of Conveyances, page 510, and as delineated on Map No. 19451.

BEING the same premises conveyed to the parties of the first part by deed dated June 15, 1984 and recorded in the Office of the Clerk of the County of Westchester, Division of Land Records, on June 19, 1984 in liber 7930, page 505 of deeds.

TOGETHER with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above described premises to the center lines thereof,

TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises,

TO HAVE AND TO HOLD the premises herein granted unto the party of the second part, the heirs or successors and assigns of the party of the second part forever.

AND the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been incumbered in any way whatever, except as aforesaid.

AND the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

IN WITNESS WHEREOF, the party of the first part has duly executed this deed the day and year first above written.

IN PRESENCE OF:

GEORGE PACCHIANA L.S.

RONALD FRATOLILL L.S.

STATE OF NEW YORK, COUNTY OF Westchester ss:

On the 21st day of March 1986, before me personally came GOERGE PACCHIANA and RONALD FRATOLILL

to me known to be the individual s described in and who executed the foregoing instrument, and acknowledged that they executed the same.

LAWRENCE L. MAFFEI
NOTARY PUBLIC, State of New York
No. 02MA4893459
Qualified in Westchester County
Commission Expires March 30, 19[illegible]

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19, before me personally came

to me known to be the individual described in and who executed the foregoing instrument, and acknowledged that executed the same.

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19, before me personally came
to me known, who, being by me duly sworn, did depose and say that he resides at No.

that he is the
of

, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation, and that he signed h name thereto by like order.

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19, before me personally came
to me known, who, being by me duly sworn, did depose and say that he resides at No.

that he is the
of

, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation, and that he signed h name thereto by like order.

Bargain and Sale Deed

WITH COVENANT AGAINST GRANTOR'S ACTS

TITLE NO.

GEORGE PACCHIANA and
RONALD FRATOLILL

TO

OSSINING RIVER ASSOCIATES, INC.

SECTION 3
BLOCK 1
LOT 1

~~CORPORATION~~ TOWN of Ossining, County of Westchester, New York

Recorded at Request of COMMONWEALTH LAND TITLE INSURANCE COMPANY

RETURN BY MAIL TO:

LAWRENCE L. MAFFEI, ESQ.
35 E. Grassy Sprain Road
Yonkers, N.Y. 10710

STANDARD FORM OF NEW YORK BOARD OF TITLE UNDERWRITERS
Distributed by
COMMONWEALTH LAND
TITLE INSURANCE COMPANY
A Reliance Group Holdings Company

RESERVE THIS SPACE FOR USE OF RECORDING OFFICE

LIBER 8388 PAGE 38

WESTCHESTER COUNTY CLERK RECORDING PAGE
(THIS PAGE IS PART OF THE INSTRUMENT)

TYPE OF INSTRUMENT Dec D
STATUTORY CHARGE 5
RECORDING CHARGE 12
FILING CHARGE 1
CROSS REFERENCE
CERT/RECEIPT
EXMD BY F.C. Ck 19

DATE
MTGE AMT
EXEMPT YES ___ NO ___
REC'D TAX ON ABOVE MTGE
BASIC $
ADDITIONAL $
SUBTOTAL $
SPECIAL $
TOTAL $
SERIAL NO

RECEIVED
WESTCHESTER COUNTY CLERK
MAR 26 8 29 AM '86

CONSID - 0 -

ANDREW J. SPANO
WESTCHESTER COUNTY CLERK

12009 RECEIVED $ NO CHG REAL ESTATE MAR 26 1986 TRANSFER TAX WESTCHESTER COUNTY

02	BEDFORD
06	CORTLANDT
09	EASTCHESTER
11	GREENBURGH
12	HARRISON
16	LEWISBORO
17	MAMARONECK
19	MT KISCO
20	MT PLEASANT
21	MT VERNON
22	NEW CASTLE
23	NEW ROCHELLE
24	NORTH CASTLE
26	NORTH SALEM
(28)	OSSINING
30	PEEKSKILL
31	PELHAM
35	POUND RIDGE
36	RYE CITY
37	RYE TOWN
38	SCARSDALE
39	SOMERS
42	WHITE PLAINS
43	YONKERS
44	YORKTOWN

TERMINAL NO 860816A042 TRANSFER FEES NO DATE RET'D 13448001 03/26/86CFA 13.00

22643

SECTION BLOCK LOT VILLAGE TOWN COUNTY

RECORD AND RETURN TO:

THE FOREGOING INSTRUMENT WAS ENDORSED FOR THE RECORD AS FOLLOWS:
THE PROPERTY AFFECTED BY THIS INSTRUMENT IS SITUATE IN THE
[X] TOWN [ ] CITY OF OSSINING, COUNTY OF WESTCHESTER
N.Y. A TRUE COPY OF THE ORIGINAL DEED RECORDED
IN THE DIVISION OF LAND RECORDS OF THE COUNTY CLERK'S OFFICE OF
WESTCHESTER COUNTY ON MAR. 26, 1986 AT 8:25A M. IN
LIBER 8388 PAGE 34 IN THE BOOK OF Deeds
WITNESS MY HAND AND OFFICIAL SEAL: Andrew J. Spano
ANDREW J. SPANO, COUNTY CLERK

S02288132

LIBER 9186 PAGE 137

Standard N.Y.B.T.U. Form 8002—20M —Bargain and Sale Deed, with Covenants against Grantor's Acts—Individual or Corporation. (single sheet)

CONSULT YOUR LAWYER BEFORE SIGNING THIS INSTRUMENT - THIS INSTRUMENT SHOULD BE USED BY LAWYERS ONLY

THIS INDENTURE, made the 6th day of May nineteen hundred and Eighty Eight

BETWEEN

WILLIAM T. DUBRAY and JOAN EISNER DUBRAY, his wife, both residing at Beach Road, Ossining, New York

Formerly known as JOAN EISNER

party of the first part, and

OSSINING RIVER ASSOCIATES, a domestic corporation with its office at 51 Route 100, Briarcliff Manor, New York 10510

party of the second part,

WITNESSETH, that the party of the first part, in consideration of ten dollars and other valuable consideration paid by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or successors and assigns of the party of the second part forever,

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the Town and Village of Ossining, County of Westchester and State of New York, bounded and described as follows:

BEGINNING at a point on the southerly side of Beach Road distant 141.45 feet westerly along the same from the westerly side of Old Croton Aqueduct;

RUNNING THENCE South 17° 48' 30" West 271.01 feet to lands now or formerly of Brandreth;

RUNNING THENCE along the same, South 59° 51' 30" West 161.11 feet to lands now or formerly of Meert;

RUNNING THENCE along the same, North 22° 25' 10" West 91.88 feet to the center line of a driveway as it previously existed and may presently exist;

THENCE easterly on a curve to the left having a radius of 411.67 feet, a distance of 59.62 feet;

RUNNING THENCE North 19° 31' 30" East 82.58 feet;

THENCE easterly on a curve to the right having a radius of 145.85 feet, a distance of 113.84 feet and North 64° 14' 50" East 82.76 feet to the southerly side of a roadway;

RUNNING THENCE easterly along the same on a curve to the left having a radius of 75.98 feet, a distance of 58.64 feet to the point or place of BEGINNING.

TOGETHER with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above described premises to the center lines thereof; TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises; TO HAVE AND TO HOLD the premises herein granted unto the party of the second part, the heirs or successors and assigns of the party of the second part forever.

AND the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been encumbered in any way whatever, except as aforesaid.

AND the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

IN WITNESS WHEREOF, the party of the first part has duly executed this deed the day and year first above written.

IN PRESENCE OF:

WILLIAM T. DUBRAY

JOAN EISNER DUBRAY

LIBER 9186 PAGE 138

STATE OF NEW YORK, COUNTY OF WESTCHESTER SS:

On the 6th day of May 19 88, before me personally came William T. Dubray and Joan Eisner Dubray, his wife

to me known to be the individuals described in and who executed the foregoing instrument, and acknowledged that they executed the same.

Gordon A. McKean

GORDON A. McKEAN
NOTARY PUBLIC, State of New York
No. 4524918
Qualified in Westchester County
Commission Expires March 30, 1988
June

STATE OF NEW YORK, COUNTY OF SS:

On the day of 19 , before me personally came

to me known to be the individual described in and who executed the foregoing instrument, and acknowledged that executed the same.

STATE OF NEW YORK, COUNTY OF SS:

On the day of 19 , before me personally came

to me known, who, being by me duly sworn, did depose and say that he resides at No.

that he is the ;

of

, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation, and that he signed h name thereto by like order.

STATE OF NEW YORK, COUNTY OF SS:

On the day of 19 , before me personally came

the subscribing witness to the foregoing instrument, with whom I am personally acquainted, who, being by me duly sworn, did depose and say that he resides at No.

that he knows ;

to be the individual described in and who executed the foregoing instrument; that he, said subscribing witness, was present and saw execute the same; and that he, said witness, at the same time subscribed h name as witness thereto.

RECORDED BY
TRI-STATE ABSTRACT, INC.
2794 MORELAND ST.
YORKTOWN HGTS., NY 10598
(914) 962-3650

Bargain and Sale Deed

WITH COVENANT AGAINST GRANTOR'S ACTS

TITLE NO. H 533 810W.

WILLIAM T. DUBRAY and
JOAN EISNER DUBRAY,

TO

OSSINING RIVER ASSOCIATES

SECTION 3, Plate 1

BLOCK 1

LOT 5

COUNTY OR TOWN of Ossining, Westchester

STANDARD FORM OF NEW YORK BOARD OF TITLE UNDERWRITERS

Distributed by

CHICAGO TITLE INSURANCE COMPANY

Recorded at Request of
CHICAGO TITLE INSURANCE COMPANY

Return by Mail to

Lawrence Maffei, Esq.
Maffei, Maffei & Keating, Esqs.
Hudson Valley National Bank Bldg.
35 E. Grassy Sprain Road
Yonkers, NY
Zip No. 10710

RESERVE THIS SPACE FOR USE OF RECORDING OFFICE

LIBER 9186 PAGE 139

WESTCHESTER COUNTY RECORDING AND ENDORSEMENT PAGE
(THIS PAGE FORMS PART OF THE INSTRUMENT)

THE FOREGOING INSTRUMENT WAS ENDORSED FOR THE RECORD AS FOLLOWS:

TYPE OF INSTRUMENT DED
(SEE CODES FOR DEFINITIONS)

THE PROPERTY IS SITUATED IN WESTCHESTER COUNTY, N.Y. IN THE

02 TOWN OF BEDFORD
06 TOWN OF CORTLANDT
09 TOWN OF EASTCHESTER
11 TOWN OF GREENBURGH
12 TOWN OF HARRISON
16 TOWN OF LEWISBORO
17 TOWN OF MAMARONECK
19 TOWN OF MT. KISCO
20 TOWN OF MT. PLEASANT
21 CITY OF MT. VERNON
22 TOWN OF NEW CASTLE
23 CITY OF NEW ROCHELLE
24 TOWN OF NORTH CASTLE
26 TOWN OF NORTH SALEM
28 TOWN OF OSSINING
30 CITY OF PEEKSKILL
31 TOWN OF PELHAM
35 TOWN OF POUND RIDGE
36 CITY OF RYE
37 TOWN OF RYE
38 TOWN OF SCARSDALE
39 TOWN OF SOMERS
42 CITY OF WHITE PLAINS
43 CITY OF YONKERS
44 TOWN OF YORKTOWN

LIBER 9186
PAGE 137
STAT'Y CHARGE 5
REC'ING CHARGE 6
FILING CHARGE 1
CROSS REFERENCE
CERT/RECEIPT
TOTAL 12
$ 362,946 CONSIDERATION

RECEIVED
$ 1452
MAY 11 1988
13643
REAL ESTATE TRANSFER TAX
WESTCHESTER COUNTY

MORTGE. DATE
MORTGE. AMOUNT
EXEMPT YES NO
REC'D TAX ON ABOVE MTGE:
BASIC $
ADDTL $
SUBTOTAL $
SPECIAL $
TOTAL $

SERIAL No.
DWELLING:
☐ 1-6 UNITS
☐ OVER 6 UNITS

ANDREW J. SPANO
WESTCHESTER COUNTY CLERK

ADDITIONAL COMMENTS

TERMINAL No. 88/325022
DATE RETURNED

EXAMINED BY
WITNESS MY HAND AND OFFICIAL SEAL
Andrew J. Spano
ANDREW J. SPANO
WESTCHESTER COUNTY CLERK

THE RECORDING DATE OF THIS INSTRUMENT AS INDICATED ABOVE IS THE OFFICIAL DATE ON WHICH THE WESTCHESTER COUNTY CLERK RECEIVED THIS INSTRUMENT.
QUESTIONS REGARDING DELAYS PRIOR TO THIS DATE SHOULD BE ADDRESSED TO YOUR REPRESENTATIVE OR ATTORNEY.

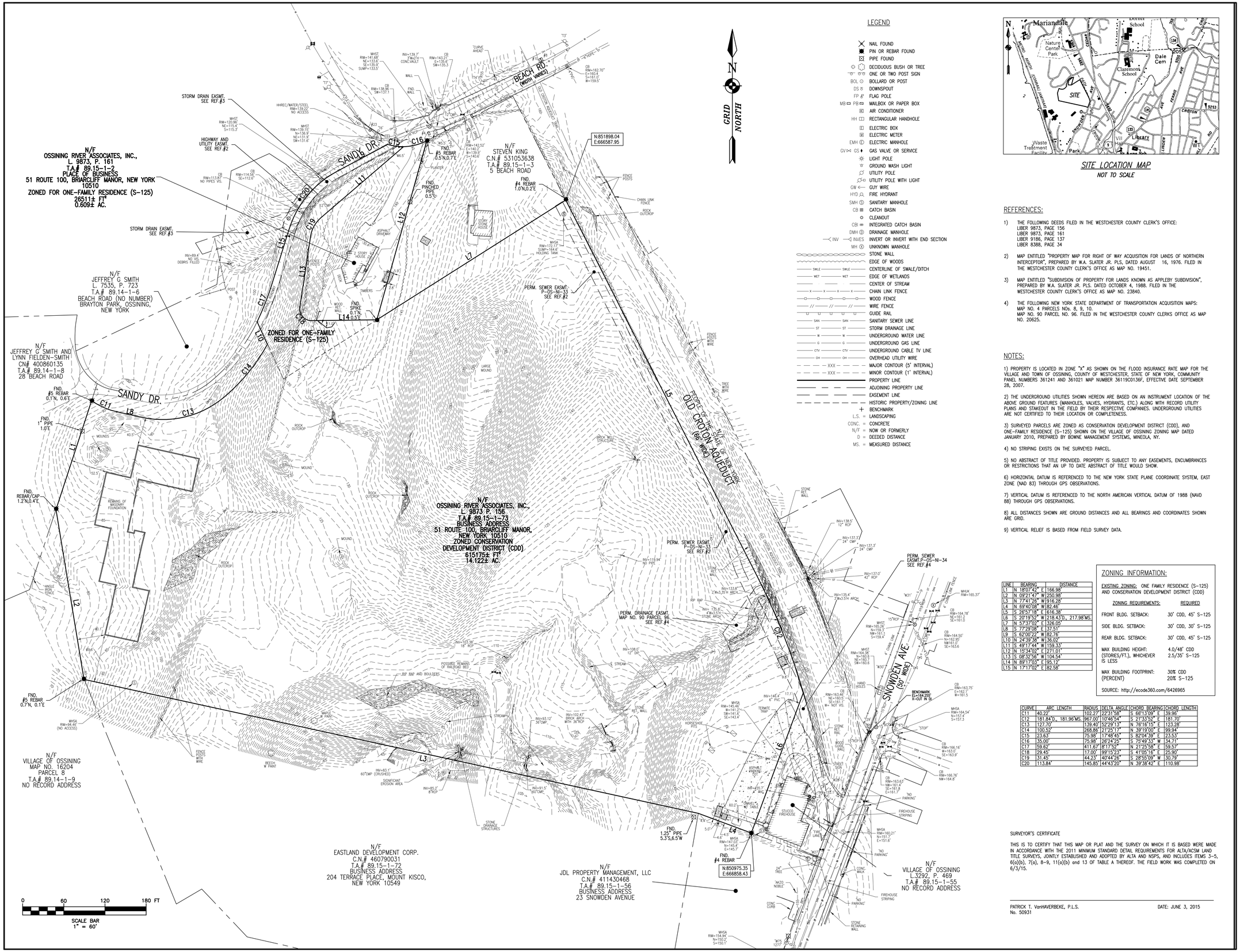
RECEIVED
WESTCHESTER COUNTY CLERK
MAY 11 11 37 AM '88

0000638008 05/11/88CPA/DE 12.00
11:40

RECORD AND RETURN

Joseph P. Eriole, Esq. ■ The Eriole Law Firm, P.C ■ P.O. Box 4031 ■ Kingston, NY 12402 ■ 845.417.4267 ■erioleesq@gmail.com

EXHIBIT B



LEGEND

- NAIL FOUND
- PIN OR REBAR FOUND
- PIPE FOUND
- DECIDUOUS BUSH OR TREE
- ONE OR TWO POST SIGN
- BOL BOLLARD OR POST
- DS DOWNSPOUT
- FP FLAG POLE
- MB PB MAILBOX OR PAPER BOX
- AIR CONDITIONER
- HH RECTANGULAR HANDHOLE
- ELECTRIC BOX
- ELECTRIC METER
- EMH ELECTRIC MANHOLE
- GV GS GAS VALVE OR SERVICE
- LIGHT POLE
- GROUND WASH LIGHT
- UTILITY POLE
- UTILITY POLE WITH LIGHT
- GW GUY WIRE
- HYD FIRE HYDRANT
- SMH SANITARY MANHOLE
- CB CATCH BASIN
- CLEANOUT
- CBI INTEGRATED CATCH BASIN
- DMH DRAINAGE MANHOLE
- INV INVES INVERT OR INVERT WITH END SECTION
- MH UNKNOWN MANHOLE
- STONE WALL
- EDGE OF WOODS
- SWLE CENTERLINE OF SWALE/DITCH
- WET EDGE OF WETLANDS
- CENTER OF STREAM
- CHAIN LINK FENCE
- WOOD FENCE
- WIRE FENCE
- GUIDE RAIL
- SAN SANITARY SEWER LINE
- ST STORM DRAINAGE LINE
- W UNDERGROUND WATER LINE
- G UNDERGROUND GAS LINE
- CTV UNDERGROUND CABLE TV LINE
- OH OVERHEAD UTILITY WIRE
- XXX MAJOR CONTOUR (5' INTERVAL)
- XXX MINOR CONTOUR (1' INTERVAL)
- PROPERTY LINE
- ADJOINING PROPERTY LINE
- EASEMENT LINE
- HISTORIC PROPERTY/ZONING LINE
- BENCHMARK
- L.S. = LANDSCAPING
- CONC. = CONCRETE
- N/F = NOW OR FORMERLY
- D = DEEDED DISTANCE
- MS. = MEASURED DISTANCE

SITE LOCATION MAP
NOT TO SCALE

REFERENCES:

1) THE FOLLOWING DEEDS FILED IN THE WESTCHESTER COUNTY CLERK'S OFFICE:
LIBER 9873, PAGE 156
LIBER 9873, PAGE 161
LIBER 9186, PAGE 137
LIBER 8388, PAGE 34

2) MAP ENTITLED "PROPERTY MAP FOR RIGHT OF WAY ACQUISITION FOR LANDS OF NORTHERN INTERCEPTOR", PREPARED BY W.A. SLATER JR. PLS, DATED AUGUST 16, 1976. FILED IN THE WESTCHESTER COUNTY CLERK'S OFFICE AS MAP NO. 19451.

3) MAP ENTITLED "SUBDIVISION OF PROPERTY FOR LANDS KNOWN AS APPLEBY SUBDIVISION", PREPARED BY W.A. SLATER JR. PLS. DATED OCTOBER 4, 1988. FILED IN THE WESTCHESTER COUNTY CLERK'S OFFICE AS MAP NO. 23840.

4) THE FOLLOWING NEW YORK STATE DEPARTMENT OF TRANSPORTATION ACQUISITION MAPS:
MAP NO. 4 PARCELS NOs. 8, 9, 10.
MAP NO. 90 PARCEL NO. 96. FILED IN THE WESTCHESTER COUNTY CLERKS OFFICE AS MAP NO. 20625.

NOTES:

1) PROPERTY IS LOCATED IN ZONE "X" AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR THE VILLAGE AND TOWN OF OSSINING, COUNTY OF WESTCHESTER, STATE OF NEW YORK, COMMUNITY PANEL NUMBERS 361241 AND 361021 MAP NUMBER 36119C0136F, EFFECTIVE DATE SEPTEMBER 28, 2007.

2) THE UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON AN INSTRUMENT LOCATION OF THE ABOVE GROUND FEATURES (MANHOLES, VALVES, HYDRANTS, ETC.) ALONG WITH RECORD UTILITY PLANS AND STAKEOUT IN THE FIELD BY THEIR RESPECTIVE COMPANIES. UNDERGROUND UTILITIES ARE NOT CERTIFIED TO THEIR LOCATION OR COMPLETENESS.

3) SURVEYED PARCELS ARE ZONED AS CONSERVATION DEVELOPMENT DISTRICT (CDD), AND ONE-FAMILY RESIDENCE (S-125) SHOWN ON THE VILLAGE OF OSSINING ZONING MAP DATED JANUARY 2010, PREPARED BY BOWNE MANAGEMENT SYSTEMS, MINEOLA, NY.

4) NO STRIPING EXISTS ON THE SURVEYED PARCEL.

5) NO ABSTRACT OF TITLE PROVIDED. PROPERTY IS SUBJECT TO ANY EASEMENTS, ENCUMBRANCES OR RESTRICTIONS THAT AN UP TO DATE ABSTRACT OF TITLE WOULD SHOW.

6) HORIZONTAL DATUM IS REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE (NAD 83) THROUGH GPS OBSERVATIONS.

7) VERTICAL DATUM IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) THROUGH GPS OBSERVATIONS.

8) ALL DISTANCES SHOWN ARE GROUND DISTANCES AND ALL BEARINGS AND COORDINATES SHOWN ARE GRID.

9) VERTICAL RELIEF IS BASED FROM FIELD SURVEY DATA.

LINE	BEARING	DISTANCE
L1	N 18°07'42" E	166.98'
L2	N 09°21'47" W	250.98'
L3	N 77°41'26" W	916.28'
L4	N 69°40'08" W	82.46'
L5	S 26°57'18" E	1616.38'
L6	S 20°19'52" W	218.43'D., 217.98'MS.
L7	N 57°37'02" E	326.05'
L8	S 77°29'08" E	137.51'
L9	S 62°00'22" W	82.76'
L10	N 24°39'38" W	36.02'
L11	S 49°17'44" W	159.33'
L12	N 15°34'02" E	271.01'
L13	S 08°32'56" W	104.54'
L14	N 89°17'03" E	95.12'
L15	N 17°17'02" E	82.58'

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C11	40.22'	102.27'	22°31'58"	S 66°13'09" E	39.96'
C12	181.84'D., 181.96'MS.	967.80'	10°46'54"	S 21°33'02" E	181.70'
C13	127.70'	139.40'	52°29'13"	N 76°16'15" E	123.28'
C14	100.52'	268.86'	21°25'17"	N 39°19'00" E	99.94'
C15	23.63'	75.98'	17°48'45"	S 82°04'39" E	23.53'
C16	35.00'	75.98'	26°24'25"	S 75°49'33" W	34.71'
C17	59.62'	411.67'	8°17'52"	N 21°25'58" E	59.57'
C18	29.45'	17.00'	99°15'23"	S 41°05'16" E	25.90'
C19	31.45'	44.23'	40°44'26"	S 28°55'09" W	30.79'
C20	113.84'	145.85'	44°43'20"	N 39°38'42" E	110.98'

ZONING INFORMATION:

EXISTING ZONING: ONE FAMILY RESIDENCE (S-125) AND CONSERVATION DEVELOPMENT DISTRICT (CDD)

ZONING REQUIREMENTS:	REQUIRED
FRONT BLDG. SETBACK:	30' CDD, 45' S-125
SIDE BLDG. SETBACK:	30' CDD, 30' S-125
REAR BLDG. SETBACK:	30' CDD, 45' S-125
MAX BUILDING HEIGHT: (STORIES/FT.), WHICHEVER IS LESS	4.0/48' CDD 2.5/35' S-125
MAX BUILDING FOOTPRINT: (PERCENT)	30% CDD 20% S-125

SOURCE: http://ecode360.com/6426965

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 3-5, 6(a)(b), 7(a), 8-9, 11(a)(b) and 13 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 6/3/15.

PATRICK T. VonHAVERBEKE, P.L.S. No. 50931

DATE: JUNE 3, 2015

OSSINING RIVER PROJECT

SNOWDEN AVENUE
OSSINING, NY

THALLE INDUSTRIES

51 ROUTE 100
BRIARCLIFF MANOR
NEW YORK 10510

Bergmann associates
architects // engineers // planners

10B Madison Avenue Extension
Albany, New York 12203

office: 518.862.0325
fax: 518.862.0326

www.bergmannpc.com

REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D

PROPERTY SITUATE IN VILLAGE OF OSSINING, TOWN OF OSSINING, COUNTY OF WESTCHESTER, STATE OF NEW YORK

ALTA/ACSM LAND TITLE SURVEY

Project Manager:
Designed by:
Drawn by: J.SMITH
Checked by: P.VANHAVERBEKE
Date Issued:
Scale: 1" = 60'

JUNE 3, 2015
Date

Project Number: 10161.00
File Name: Z:\Projects\Pike\010161.00 PIKE - THALLE INDUSTRIES OSSINING DEVEL\4.0 Dwgs\4.2 Survey\Carlson2015\dwg\10161.00 BASE.dwg

Drawing Number: EB-1

Joseph P. Eriole, Esq. ■ The Eriole Law Firm, P.C ■ P.O. Box 4031 ■ Kingston, NY 12402 ■ 845.417.4267 ■ erioleesq@gmail.com

EXHIBIT C

SITE DATA CHART

ZONING DISTRICT: CDD: CONSERVATION DEVELOPMENT DISTRICT / S-125: ONE-FAMILY RESIDENCE

	REQUIRED (CDD)	REQUIRED (S-125)	PROPOSED (CDD)	EXIST RESIDENTIAL LOT (S-125)
MINIMUM LOT AREA	2 ACRES	0.34 ACRES	13.78 ACRES (SEE NOTE 6)	0.54 ACRES (SEE NOTE 8)
MAXIMUM BUILDING WIDTH FOR EACH STRUCTURE/OPEN AREA	SEE NOTE 1	125 FEET (SEE NOTE 7)	452 FEET / 70%	69 FEET
BUFFER FOR LOTS ABUTTING A RESIDENTIAL DISTRICT	25 FEET	N/A	25 FEET MIN	N/A
BUILDING, PARKING AND LOADING SETBACK				
MINIMUM FRONT YARD	30 FEET	45 FEET	BLDG: 105 FEET PARKING: 27 FEET	51 FEET
MINIMUM SIDE YARD (ONE)	30 FEET	30 FEET	BLDG: 30 FEET PARKING: 17 FEET	29 FEET*
MINIMUM SIDE YARD (BOTH)	N/A	60 FEET	N/A	74 FEET
MINIMUM REAR YARD	30 FEET	45 FEET	BLDG: 33 FEET PARKING: 100 FEET	53 FEET
MINIMUM DISTANCE BETWEEN ANY TWO BUILDINGS	35 FEET	N/A	102 FEET	N/A
MINIMUM LIVABLE FLOOR AREA PER DWELLING UNIT	N/A	0.02 ACRES	N/A	> 0.02 ACRES
RESIDENTIAL REQUIREMENTS				
DENSITY	SEE NOTE 2	N/A	14.7 UNITS/ACRE	N/A
BEDROOM MIX	SEE NOTE 3	N/A	40% 1 BDR; 40% 2 BDR; 2% 3 BDR	N/A
HEIGHTS				
MAXIMUM BUILDING HEIGHT, WHICHEVER IS LESS	4.0 STORIES/ 48 FEET	2.5 STORIES/ 35 FEET	5.0 STORIES/ 58± FEET	< 2.5 STORIES/ 35 FEET
COVERAGE				
MAXIMUM IMPERVIOUS COVERAGE	50%	30%	35%	28%
MAXIMUM BUILDING COVERAGE	30%	20%	9%	7.4%
OPEN SPACE				
MINIMUM OPEN SPACE	25% (OF LOT AREA)	N/A	38%	N/A

* EXISTING BUILDING WITH NON-CONFORMING BUILDING SETBACK

NOTE:

1. THE TOTAL CUMULATIVE WIDTH OF BUILDINGS, STRUCTURES, SOLID FENCES AND WALLS MORE THAN 36 INCHES IN HEIGHT SHALL NOT OCCUPY MORE THAN 50% OF THE WIDTH OF A PARCEL AS MEASURED ALONG A LINE SUBSTANTIALLY PARALLEL TO THE HUDSON RIVER, AND THE MAXIMUM BUILDING WIDTH FOR EACH STRUCTURE OF BUILDING SHALL NOT BE MORE THAN 75 FEET MEASURED ALONG A LINE SUBSTANTIALLY PARALLEL TO THE HUDSON RIVER. REFERENCE 270-19 FOR ADDITIONAL REQUIREMENTS.
2. BASELINE DENSITY: 6 UNITS PER ACRE UP TO 8 DWELLING UNITS PER ACRE PURSUANT TO 270-19. WETLAND SHALL BE DEDUCTED FROM THE PARCEL AREA WHEN DETERMINING DENSITY. DENSITY BONUS INCENTIVES MAY BE OBTAINED PER 270-19. H.
3. BEDROOM MIX REQUIREMENTS: 10% OF TOTAL UNITS FOR ONE-BEDROOM UNITS OR STUDIOS, 20% OF TOTAL UNITS FOR TWO-BEDROOM UNITS AND 10% OF TOTAL UNITS FOR THREE-BEDROOM UNITS. A WAIVER MAY BE REQUIRED.
4. REFER TO 270-19. G FOR AFFORDABLE HOUSING REQUIREMENTS. APPLICANT MUST PROVIDE AFFORDABLE HOUSING PER CHAPTER 62.
5. SURVEY REFERENCE: SURVEY BASED ON A MAP ENTITLED "ALTA/ACSM LAND TITLE SURVEY", DATED JUNE 3, 2015, PREPARED BY BERGMANN ASSOCIATES.
6. DOES NOT CONSIDER LAND CONVEYANCE BETWEEN OSSINING RIVER ASSOCIATES AND THE VILLAGE.
7. LOTS WITH A GREATER WIDTH THAN THE MINIMUM LOT WIDTH MUST HAVE BOTH SIDE YARD SETBACKS EQUAL TO 40% OF THE LOT WIDTH WITH EACH SIDE YARD EQUALING A MINIMUM OF 45% OF BOTH SIDE YARD SETBACKS.
8. THE EXISTING LOT SIZE IS 0.61 ACRES. THE REDUCED LOT SIZE IS 0.54 ACRES WITH THE LAND PROVIDED FOR EMERGENCY ACCESS.

PROJECT DATA

1. APPLICANT:
   OSSINING RIVER ASSOCIATES, INC.
   51 ROUTE 100
   BRIARCLIFF MANOR, NEW YORK 14607
2. EXISTING ZONING: CDD: CONSERVATION DEVELOPMENT DISTRICT
   S-125: ONE-FAMILY RESIDENCE
3. LOT AREA: 13.86± ACRES (603,876 SF)

OFF-STREET PARKING
CDD DISTRICT - RESIDENTIAL DWELLINGS UNITS
1.25 SPACES FOR AN EFFICIENCY OR STUDIO
1.5 SPACES FOR 1 BEDROOM
2.0 SPACE FOR UNITS WITH 2 OR MORE BEDROOMS

TOTAL DWELLING UNITS PROPOSED = 198
ASSUMPTIONS: 40% FOR 1 BEDROOM = 97 UNITS
40% FOR 2 BEDROOM = 97 UNITS
2% FOR 3 BEDROOM = 4 UNITS

1 BEDROOM:	1.5 X 97 =	146	SPACES REQUIRED
2 BEDROOMS:	2.0 X 97 =	194	SPACES REQUIRED
3 BEDROOMS:	2.0 X 4 =	8	SPACES REQUIRED
		348	TOTAL SPACES REQUIRED
		16	ACCESSIBLE SPACES REQUIRED
SURFACE PARKING		141	TOTAL SPACES PROVIDED
PARKING UNDER BUILDING		108	TOTAL SPACES PROVIDED
		249	TOTAL SPACES PROVIDED
		16	ACCESSIBLE SPACES PROVIDED

CDD DISTRICT - FIRE STATION
1. THERE IS NO OFF-STREET PARKING REQUIREMENT INDICATED IN ZONING CODE.

PARKING REQUIRED: N/A — 27 TOTAL SPACES PROVIDED, 2 ACCESSIBLE SPACES PROVIDED

CDD DISTRICT - OVERFLOW PARKING
THERE IS NO OFF-STREET PARKING REQUIREMENT INDICATED IN ZONING CODE.

PARKING REQUIRED: N/A — 27 TOTAL SPACES PROVIDED

DENSITY BONUS PROVISIONS (SECTION 270-19.H.):

1. DENSITY BONUS INCENTIVES MAY BE GRANTED BY THE PLANNING BOARD FOR DEVELOPMENTS IN THE CDD DISTRICT IN EXCHANGE FOR AN APPLICANT PROVIDING VARIOUS AMENITIES. THE APPLICANT PROPOSES THE FOLLOWING AMENITIES:
   (A) PROVISION OF PUBLICLY ACCESSIBLE RIVERWALK
   (B) PROVISION OF PUBLIC OPEN SPACE
2. THE PLANNING BOARD SHALL GRANT A DENSITY BONUS OF 10% FOR EACH AMENITY OFFERED, PROVIDED THAT THE PLANNING BOARD FINDS THAT THE AMENITY IS PROPORTIONAL TO SUCH DENSITY BONUS. THEREFORE THE APPLICANT WOULD BE ELIGIBLE FOR A 20% DENSITY BONUS.
3. THE ALLOWED BASE DENSITY IS 6 UNITS PER ACRE. THEREFORE THE DENSITY BONUS IS 1.2 UNITS PER ACRE, YIELDING A TOTAL ALLOWED DENSITY OF 7.2 UNITS PER ACRE. THE PROPOSED DENSITY IS AS FOLLOWS:

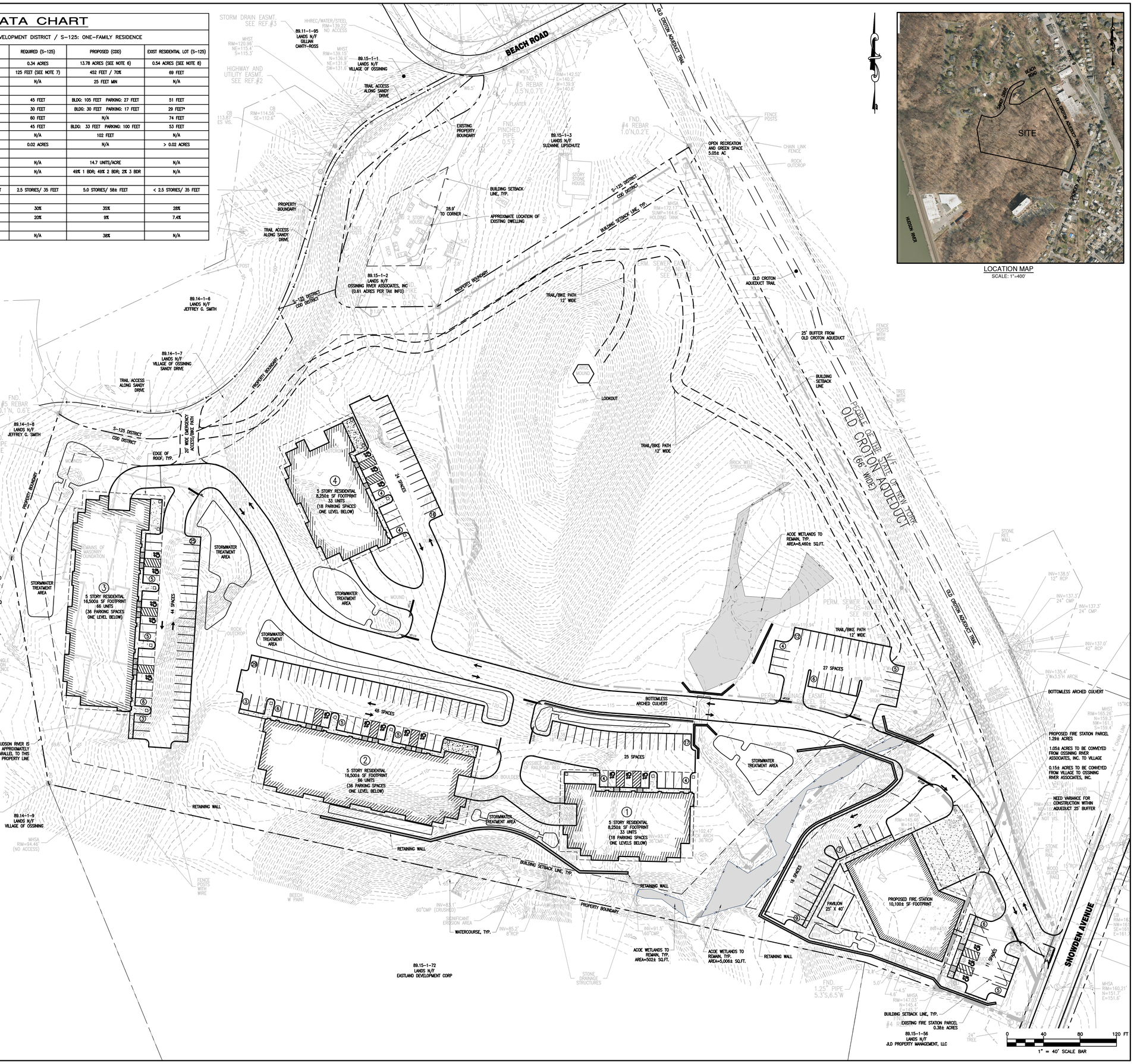
   GROSS AREA = 13.78 ACRES
   WETLAND AREA = 0.34 ACRES
   DENSITY = 198/(13.78-0.34) = 14.7 UNITS/ACRE

CODE DEVIATION REQUIRED:

1. FOR TOTAL CUMULATIVE WIDTH OF BUILDING/WALLS MEASURED ALONG A LINE SUBSTANTIALLY PARALLEL TO THE HUDSON RIVER.
2. FOR CONSTRUCTION OF THE PROPOSED DRIVEWAY WITHIN THE 25 FEET CONSTRUCTION SETBACK FROM THE OLD CROTON AQUEDUCT.
3. FOR DENSITY AS INDICATED IN THE DENSITY BONUS PROVISIONS ABOVE.
4. FOR BUILDING HEIGHT.

ENVIRONMENTAL NOTES:

1. PER THE OPRHP WEBSITE THE SITE IS LOCATED IN AN ARCHAEOLOGICAL SENSITIVE ZONE. THERE ARE TWO (2) HISTORIC SITES LOCATED ADJACENT TO OR NEAR THE PROPERTY, AS FOLLOWS:
   a: OLD CROTON AQUEDUCT TRAIL (80NR02435)
   b: BRANDRETH PILL FACTORY (80NR02504) WEST OF PROJECT SITE
2. PER NEW YORK STATE DEPARTMENT OF STATE, OFFICE OF PLANNING & DEVELOPMENT WEBSITE THE WHOLE PROJECT SITE IS WITHIN A LANDWARD COASTAL BOUNDARY (I.E., COASTAL ZONE).
3. FEDERAL REGULATED WETLANDS EXIST ON SITE.
4. NO MAPPED STATE REGULATED WETLANDS OR STREAMS WERE FOUND FOR THE PROJECT SITE PER NYSDEC ENVIRONMENTAL RESOURCE MAPPER.



LOCATION MAP
SCALE: 1"=400'

SNOWDEN WOODS

SNOWDEN AVENUE
OSSINING, NY

OSSINING RIVER ASSOCIATES, INC

51 ROUTE 100
BRIARCLIFF MANOR
NEW YORK 10510

Bergmann associates
architects // engineers // planners

10B Madison Avenue Extension
Albany, New York 12203

office: 518.862.0325
fax: 518.862.0326

www.bergmannpc.com

REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D

CONCEPT PLAN
198 UNITS

Project Manager: G. URSPRUNG, PE
Designed by: S. HARRISON
Drawn by: S. HARRISON
Checked by: G.URSPRUNG, PE
Date Issued: OCTOBER 24, 2016
Scale: 1" = 40'
Date

Project Number: 10161.00
File Name: CP105.DWG

Drawing Number:

CP105

1 of 1

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EXHIBIT D

§ 270-25A. PDO Preservation Density Overlay.

A) Purpose. To incentivize responsible high density development in the CDD and PW districts where exceptional conservation or sustainability goals can be achieved and clearly measurable benefits to municipal infrastructure, services, and affordable housing goals are also served by the development.

B) Uses. Permitted principal, accessory, conditional and special permit uses shall be as provided in Appendix A.

C) Additional accessory uses. In addition to the permitted accessory uses specified in Appendix A and the requirements found in § 270-26, the following are permitted accessory uses and requirements:

1) Wading pool or swimming pool incidental to the residential use on the premises and not operated for gain, provided that any swimming pool shall be subject to the requirements of § 270-32 or § 270-33.

2) Bars or taverns, indoor entertainment or recreation; provided, however, that they are an integral part of the primary use, the total square footage of such uses shall not constitute more than 30% of the building area and the site can accommodate any required additional parking.

3) Clubhouses and community centers constructed within a residential community for the use by its residents, which shall be operated by a homeowners, co-op or condominium association.

D) Parking requirements. Parking requirements in the PDO District shall be one space for units with one bedroom and studio/efficiency units, and one and one-half spaces for units with two or more bedrooms for residential development, and otherwise shall conform to the requirements set forth in Appendix C for the CDD and PW districts. Where such provisions conflict, the lesser requirement shall be applicable to a development in the PDO.

E) Special provisions applicable to CDD.

1) Deductions from developable land area. Land located in the PDO, and the developments associated therewith, have been identified as having unique, natural environmental features. In order to help preserve and conserve these features, the following lands shall be deducted from the developable land area for the purposes of determining whether a development proposal complies with coverage, lot area and density requirements: jurisdictional wetlands shall be deducted in their entirety.

2) Qualified Developments. A development site which meets the following criteria shall be a "Qualified Development" and upon petition therefore shall be designated as such:

a) The total assemblage of parcels proposed for development must be under common ownership or under contract to the applicant at the time of the application for designation.

b) The gross acreage of the total assemblage of parcels proposed for development must be at least 10 acres.

c) At least 90 % of the total assemblage of parcels proposed for development must be within the CDD or a PW district.

d) The development proposal must preserve at least 30% of the assemblage's gross land area as permanent public open space or public park space.

e) The development proposal must include at least 15% affordable units.

f) The development proposal must provide for an on- or off-site contribution to non-site-related infrastructure improvements. Non-site-related improvements would be improvements that are not directly needed, required or related to the development of the proposed project but will provide to the Village a capital or infrastructure improvement or construction project, at the developer's expense under the direction of the Village Engineer and Village Manager. A capital or infrastructure project which satisfies this qualification of a Qualified Development shall be determined and approved by the Village Engineer, whose recommendation shall describe the project in writing as part of the record of the site plan or other land use approval review process.

270 Attachment 1

Village of Ossining

Appendix A, Use Tables
Table A-1: Permitted, Conditional and Special Permit Principal Uses in Business and Mixed-Use Districts and Planned Waterfront Subdistricts
[Amended 1-20-2016 by L.L. No. 1-2016]

USE	DISTRICT														
	PC	NC-1	NC-2	VC	GB	O-R	SP-N	SP-S	CDD	RDD	IR	PW-a	PW-b	PW-c	PDO
Residential Use Group															
Residential dwelling units	np	c	c	c	np	np	c	np	c	sp	c	c	c	c	p
Commercial Use Group															
Adult entertainment uses	c	np	np	np	np	np	np	np	np	np	np	np	np	np	np
Animal-related uses, general	p	p	p	p	p	np	p	np	np	p	p	p	p	p	p
Animal-related uses, intensive	c	c	c	np	c	np	np	np	np	np	np	np	np	np	np
Bar or tavern uses	c	c	c	c	np	np	c	c	np	c	c	c	c	np	c
Cemeteries	np	np	np	np	np	np	np	np	np	np	np	np	np	np	np
Entertainment or recreation uses, indoor	c	c	c	c	c	np	np	np	np	c	c	c	c	c	c
Entertainment or recreation uses, outdoor	np	np	np	np	p	np	np	np	np	p	p	p	p	np	p
Lodging uses, bed-and-breakfasts	np	c	c	c	np	np	c	np	c	c	c	c	c	c	c
Lodging uses, hotels	c	c	c	c	sp	p	np	np	p	p	p	np	p	p	p
Office uses, general	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Office uses, live-work	np	c	c	c	np	np	c	np	c	c	c	c	c	c	c
Office uses, medical and dental	p	p	p	p	p	p	c	np	c	c	c	c	c	c	c
Parking uses, nonaccessory	np	c	c	c	np	np	np	c	np	np	c	c	c	c	np
Restaurants	p	c	c	p	p	np	p	p	p	p	p	p	p	p	p
Retail sales and service uses, sales oriented	p	p	p	p	p	np	p	p	c	p	p	p	p	p	p
Retail sales and service uses, personal service oriented	p	p	p	p	p	np	p	p	c	p	p	p	p	p	p
Funeral parlors, taxidermists, mortuaries, crematoriums	np	c	c	c	c	np	np	Np	np	np	np	np	np	c	np

USE	DISTRICT														
	PC	**NC-1**	**NC-2**	**VC**	**GB**	**O-R**	**SP-N**	**SP-S**	**CDD**	**RDD**	**IR**	**PW-a**	**PW-b**	**PW-c**	**PDO**
Retail sales and service uses, repair oriented	p	p	p	p	p	np	p	P	np	p	p	p	p	p	c
Retail sales and service uses, outdoor sales oriented	c	c	c	np	p	np	np	Np	np	c	c	c	c	np	np
Vehicle-related uses, general	p	c	c	c	p	np	np	Np	np	np	c	np	np	np	np
Vehicle related uses, general plus	c	c	c	np	p	np	np	Np	np	np	np	np	np	np	np
Vehicle-related uses, intensive	sp	np	np	np	c	np	np	Np	np	np	np	np	np	np	np
Civic and Institutional Use Group															
Clubhouses, community centers	np	c	c	c	np	np	c	Np	c	c	c	c	c	c	p
Day-care and nursery schools	c	c	c	c	c	np	np	Np	c	np	c	c	c	c	c
Educational uses, elementary or secondary	np	c	c	c	np	np	np	Np	p	p	p	p	p	p	p
Educational uses, specialized	p	p	p	p	p	np	np	Np	c	c	c	c	c	c	p
Educational uses, higher learning	c	c	c	c	c	c	np	Np	sp	np	sp	np	np	np	sp
Hospitals	sp	np	np	np	sp	c	np	Np	c	np	c	np	np	np	np
Infrastructure and utilities uses, general	p	p	p	p	p	p	sp	Sp	sp	sp	sp	sp	sp	sp	p
Infrastructure and utilities uses, intensive	sp	sp	sp	sp	sp	sp	np	Np	sp	sp	sp	sp	sp	sp	sp
Municipal uses	p	p	p	p	p	p	p	P	p	p	p	p	p	p	p
Places of worship	np	c	c	c	np	p	np	P	c	np	c	c	c	c	c
Senior living facilities	np	c	c	c	np	p	np	Np	c	np	c	c	c	c	c
Water-related recreation facilities	np	np	np	np	np	np	p	P	p	p	p	p	p	p	p
Industrial Use Group															
Artisan workspace, general	p	p	p	p	p	np	p	P	p	p	p	p	p	p	p
Artisan workspace, intensive	c	np	np	np	c	np	np	Np	np	c	c	c	c	c	c
Light manufacturing	np	np	np	np	np	np	np	Np	np	np	c	c	np	np	np
Self-storage uses	np	np	np	np	c	np	np	Np	np	np	np	c	c	np	np
Warehouse and freight movement uses	np	np	np	np	c	np	np	Np	np	c	np	c	c	np	np

NOTE: The column under each zoning classification indicates whether the use is permitted (p), not permitted (np), conditionally permitted (c) or permitted as a special use (sp).

270 Attachment 2

Village of Ossining

Appendix A, Use Tables
Table A-2: Permitted Accessory Uses in Business and Mixed-Use Districts and Planned Waterfront Subdistricts
[Amended 8-2-2011 by L.L. No. 3-2011]

USE	DISTRICT														
	PC	NC-1	NC-2	VC	GB	O-R	SP-N	SP-S	CDD	RDD	IR	PW-a	PW-b	PW-c	PDO
Clubhouses, community centers	np	np	np	np	np	np	np	np	p	p	p	p	p	p	p
Drive-through facilities	p	np	np	np	p	np	np	np	p	p	p	p	p	np	p
Fences and walls	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Home-based businesses	n/a	p	p	p	n/a	n/a	p	np	p	p	p	p	p	p	p
Home occupations	n/a	p	p	p	n/a	n/a	p	np	p	p	p	p	p	p	p
Garage, private	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Off-street parking and loading	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Outdoor dining	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Outdoor storage	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Outdoor displays	p	p	p	p	p	np	p	p	p	p	p	p	p	p	p
Outdoor accessory recreation	np	np	np	np	p	p	np	np	p	p	p	p	p	p	p
Signs	p	p	p	p	p	p	p	p	p	p	p	p	P	p	p

NOTE: The column under each zoning classification indicates whether the use is permitted (p), not permitted (np), conditionally permitted (c) or permitted as a special use (sp).

270 Attachment 9

Village of Ossining

Appendix B, Bulk Requirements
Table B-5: Bulk Requirements for PDO Preservation Density Overlay]

Setbacks	
Minimum lot area	10 acres
Buffer for lots abutting a residential district (ft.)	25
Minimum setback for buildings, parking or loading areas	30 ft. of any street or lot line
Minimum distance between any two buildings except attached dwellings sharing a party wall (ft.)	35
Residential Requirements	
Density	16 units per acre
Bedroom mix	one-bedroom units or studios: 10% of total units two-bedroom units: 20% of total units
Heights	
Maximum building height (stories/ft.), whichever is less	6.0/72
Coverage	
Maximum impervious coverage (percent)	50
Maximum building coverage (percent)	30
Open Space	
Minimum open space	25% of lot area

Building width and open area. The total cumulative width of building, structures, solid fences and walls more than 36 inches in height shall not occupy more than **70%** of the width of a parcel as measured along a line substantially parallel to the Hudson River, and the maximum building width for each structure or building shall not be more than **250 feet** measured along a line substantially parallel to the Hudson River. Of the remaining open area, one uninterrupted space shall be at least **25%** of such parcel width, unless the Planning Board approves more than one view corridor totaling **25%**. Excluded are existing Village of Ossining designated historical buildings or any parcel or structure that is deemed by the Planning Board as irrelevant to preserving view corridors either to or from the Hudson River.

270 Attachment 16

Village of Ossining Appendix

C, Parking Requirements
Table C-2: Parking Requirements in VC, RDD, SP-N, SP-S, PDO and Planned Waterfront Districts (PW-a, PW-b and PW-c)

Use	Minimum Spaces
Residential Use Group	
Residential dwellings units	1 space for units an efficiency or studio; 1 space for units with 1 bedroom; 1.5 spaces for units with 2 or more bedrooms
Commercial Use Group	
Animal-related uses, general	1 space per 200 sq. ft. of gross floor area
Animal-related uses, intensive	1 space per 400 sq. ft. of gross floor area
Bar or tavern uses	1 space for each 4 seats plus 1 space for each person employed therein
Entertainment or recreation uses, indoor	1 space per 400 sq. ft. of gross floor area
Entertainment or recreation uses, outdoor	1 space per 2,000 sq. ft. of outdoor area open to the public
Lodging uses, bed-and-breakfast	1 space per guest room
Lodging uses, hotel	1 space per guest room, plus 1 space per 60 sq. ft. of net floor area in meeting halls, plus 1 space per 4 seats and 0.5 employee in restaurants open to the public
Office uses, general	1 space per 400 sq. ft. of gross floor area
Office uses, live-work	No additional spaces required beyond those required for the dwelling
Office uses, medical-professional	1 space per 300 sq. ft. of gross floor area
Restaurants	1 space for each 4 seats plus 1 space for each person employed therein
Retail sales and service uses, sales oriented	1 space per 350 sq. ft. of gross floor area
Retail sales and service uses, personal service oriented	1 space per 350 sq. ft. of gross floor area
Funeral parlors	1 space per 300 sq. ft. of gross floor area
Retail sales and service uses, repair oriented	1 space per 400 sq. ft. of gross floor area
Retail sales and service uses, outdoor sales oriented	1 space per 400 sq. ft. of outdoor sales area accessible to customers
Vehicle-related uses, general and general plus	1 space per 350 sq. ft. of gross floor area
Vehicle-related uses, intensive	1 space per 350 sq. ft. of gross floor area, plus 1 space for customers and employees per 1,000 sq. ft. of outdoor sales and storage area
Civic/Institutional Use Group	
Clubhouses, community centers, places of worship	1 space per 4 seats. If benches or pews are provided, 24 linear inches of bench or pew

Use	Minimum Spaces
Educational uses, specialized	space shall be equivalent to 1 seat. If no seats are provided, 6 square feet of floor area in each assembly room and classroom shall be equivalent to 1 seat.
Educational uses, higher learning	
Educational uses, elementary or secondary	2 spaces per classroom, plus 1 space per 18 square feet of floor area in each gymnasium and assembly hall
Day-care and nursery schools	1 space per employee and 1 space per 5 children. If there is a drop-off area where at least 5 cars can queue up, then it could be reduced to 1 space per 10 children.
Hospitals	1 space per 400 sq. ft. of gross floor area
Senior living facilities	1 space per employee at the largest shift. and 1 space per 2 units
Water-related recreation facilities	1 space per 2,000 sq. ft. of public outdoor area, plus 1 space per boat slip
Industrial Use Group	
Artisan workspaces, general and intensive	1 space per 500 sq. ft. of gross floor area
Light manufacturing	1 space per 1,000 sq. ft. of gross floor area
Self-storage uses	1 space per 20 storage units
Warehouse and freight movement uses	1 space per 1,000 sq. ft. of gross floor area

NOTE: Space requirements for uses not provided in the above table shall be subject to the determination of the Planning Board. Parking ratios listed under the table do not indicate if the use is permitted in the district. See Appendix A for permitted uses.

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EXHIBIT E

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Snowden Woods		
Project Location (describe, and attach a general location map): The project is located along Snowden Avenue to the west of the Ossining Fire Department Northside Station. It is bordered to the north by Sandy Drive, to the east by the Old Croton Aqueduct and to the southeast by Snowden Avenue		
Brief Description of Proposed Action (include purpose or need): The project consists of 198 residential units (1, 2 & 3 bedrooms) in Four (4) five-story residential buildings. Parking will be provided both below the buildings and with surface parking. Stormwater management areas and associated utilities will be provided within the project site. In order to provide suitable access to the project site, the Northside Fire Station will be reconstructed. The proposed fire station has a 10,100± SF building footprint.		
Name of Applicant/Sponsor: Ossining River Associates, Inc	Telephone: (914) 490 - 7328 E-Mail: TBD	
Address: 51 Route 100		
City/PO: Briarcliff Manor	State: New York	Zip Code: 10510
Project Contact (if not same as sponsor; give name and title/role): Bergmann Associates, Gregg E. Ursprung, PE (Agent for applicant)	Telephone: (518) 862-0325 E-Mail: gursprung@bergmannpc.com	
Address: 10B Madison Avenue Extension		
City/PO: Albany	State: New York	Zip Code: 12203
Property Owner (if not same as sponsor):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees ☑Yes ☐No	Village Board - Land Conveyance to Applicant - Zoning Amendment / Overlay	
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Village of Ossining Planning Board - Site Plan Approval	
c. City Council, Town or Village Zoning Board of Appeals ☑Yes ☐No	Village of Ossining Zoning Board of Appeals - Area Variance for setback from Aqueduct	
d. Other local agencies ☑Yes ☐No	Ossining Department of Public Works - Water and Sewer Connection	
e. County agencies ☑Yes ☐No	1) Westchester County Planning Board - 239m Review (Recommendation only)	2) Westchester County Health Department - Water Supply
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	1) NYSDEC - Stormwater General Permit for Stormwater Discharge	2) OPRHP - Historic Resources
h. Federal agencies ☑Yes ☐No	ACOE - Wetland Jurisdictional Determination	

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☑Yes ☐No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☑Yes ☐No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

1) Per Village of Ossining Comprehensive Plan, Village of Ossining is a Greenway Compact Community, and it is also part of the Greenway Water Trail. Westchester County is one of 13 counties that make up the Hudson River Valley Greenway. 2) per Westchester County Geographic information online system, Village of Ossining is within watershed area of Pocantico and Saw Mill River Basin. The County takes the lead in protecting the watershed areas.

3) The Old Croton Aqueduct and Sing Sing Prison led to the selection of Ossining as State Heritage Area.

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☑Yes ☐No

If Yes, identify the plan(s):

Partially within areas listed in Village of Ossining Comprehensive Plan: Old Croton Aqueduct (State historic park, trailway and bicycle path along the right-of-way of the Old Croton Aqueduct. Based on Westchester County Geographic Information online systems, the project is adjacent to the open space named Village Land. It is a public Non-Park Land.

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
CDD: Conservation Development District
S-125: One -Family Residence

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☑ Yes ☐ No
If Yes,
i. What is the proposed new zoning for the site? Zoning amendment and/or overlay for increase in density requested.

C.4. Existing community services.

a. In what school district is the project site located? Ossining Union Free School District

b. What police or other public protection forces serve the project site?
Ossining Village Police Department

c. Which fire protection and emergency medical services serve the project site?
Ossining Fire Department

d. What parks serve the project site?
Crawbuckie Nature Center

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Residential, Proposed Village of Ossining Fire Department

b. a. Total acreage of the site of the proposed action? 13.86 acres
b. Total acreage to be physically disturbed? 9.2± acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 14.4 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will proposed action be constructed in multiple phases? ☑ Yes ☐ No
i. If No, anticipated period of construction: N/A months
ii. If Yes:
- Total number of phases anticipated TBD
- Anticipated commencement date of phase 1 (including demolition) TBD month _____ year
- Anticipated completion date of final phase TBD month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☑ Yes ☐ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				198
At completion of all phases				198

g. Does the proposed action include new non-residential construction (including expansions)? ☑ Yes ☐ No

If Yes,

i. Total number of structures 1

ii. Dimensions (in feet) of largest proposed structure: TBD height; 72± width; and 140± length

iii. Approximate extent of building space to be heated or cooled: 10,100± square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☑ Yes ☐ No

If Yes,

i. Purpose of the impoundment: Stormwater Detention

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑ Other specify: Stormwater Runoff

iii. If other than water, identify the type of impounded/contained liquids and their source.

iv. Approximate size of the proposed impoundment. Volume: TBD million gallons; surface area: TBD acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☑ Yes ☐ No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)

If Yes:

i .What is the purpose of the excavation or dredging? Excavation for building construction and site development.

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): TBD
- Over what duration of time? TBD

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.
Soil and potentially rock to be reused for site grading.

i*v.* Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No
If yes, describe. TBD

v. What is the total area to be dredged or excavated? TBD acres

vi. What is the maximum area to be worked at any one time? TBD acres

vii. What would be the maximum depth of excavation or dredging? TBD feet

viii. Will the excavation require blasting? TBD ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: TBD

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐ Yes ☑ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description):

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No
If Yes, describe: -

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? TBD ☐ Yes ☐ No
If Yes:

- acres of aquatic vegetation proposed to be removed:
- expected acreage of aquatic vegetation remaining after project completion:
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:
TBD if required

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No
If Yes:

i. Total anticipated water usage/demand per day: 35,920± gallons/day (303 bedrooms, fire station)

ii. Will the proposed action obtain water from an existing public water supply? ☑ Yes ☐ No
If Yes:

- Name of district or service area: Village of Ossining Water System
- Does the existing public water supply have capacity to serve the proposal? TBD ☐ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No
- Do existing lines serve the project site? ☑ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☑ Yes ☐ No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
  TBD
- Source(s) of supply for the district: The Ossining Water System serves the entirety of the Village of Ossining. Water is supplied via two surface water sources: the Indian Brook Reservoir, located at 25 Fowler Avenue, and the New Croton Reservoir.

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☑ No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:
N/A

vi. If water supply will be from wells (public or private), maximum pumping capacity: N/A gallons/minute.

d. Will the proposed action generate liquid wastes? ☑ Yes ☐ No
If Yes:

i. Total anticipated liquid waste generation per day: 35,920± gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
Sanitary Wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑ Yes ☐ No
If Yes:

- Name of wastewater treatment plant to be used: Westchester County Wastewater Treatment Facility
- Name of district:
- Does the existing wastewater treatment plant have capacity to serve the project? TBD ☐ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No

- Do existing sewer lines serve the project site? ☑ Yes ☐ No
- Will line extension within an existing district be necessary to serve the project? ☑ Yes ☐ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: TBD

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐ Yes ☑ No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

N/A

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: N/A

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑ Yes ☐ No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

217.764 Square feet or 5.00± acres (impervious surface)

603.876± Square feet or 13.86± acres (parcel size)

ii. Describe types of new point sources. TBD

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

On-site stormwater management facility, prior to discharge from the project site.

- If to surface waters, identify receiving water bodies or wetlands: N/A
- Will stormwater runoff flow to adjacent properties? ☑ Yes ☐ No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑ Yes ☐ No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐ Yes ☑ No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? N/A ☐ Yes ☐ No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐ Yes ☐ No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

_____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☑ Morning ☑ Evening ☐Weekend

☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: N/A

iii. Parking spaces: Existing 0 Proposed 348 Net increase/decrease 348

iv. Does the proposed action include any shared use parking? ☐Yes ☑No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

Access roads/drive to new residential buildings & community center

_____

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☑Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☑No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☑Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? N/A ☐Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

_____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

_____

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7:30 am - 8:00 pm
- Saturday: 9:00 am - 5:00 pm
- Sunday: N/A
- Holidays: N/A

ii. During Operations:

- Monday - Friday: N/A
- Saturday: N/A
- Sunday: N/A
- Holidays: N/A

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Noise levels will increase during construction due to construction equipment. See D.2.l for hours of operation.

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: _____

n.. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

TBD

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: Surrounding vegetation around proposed development will remain to the extent practical.

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? N/A for Residential ☐ Yes ☐ No

If Yes:

i. Describe proposed treatment(s):

_____

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? N/A for Residential ☐ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____
- Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☐ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☑ Aquatic ☑ Other (specify): General Business and Northern Waterfront

ii. If mix of uses, generally describe:

Hudson River located to the west

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.5±	5.17±	+ 4.67±
• Forested	TBD	TBD	TBD
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0	TBD	TBD
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	0
• Wetlands (freshwater or tidal)	0.32±	0.32±	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☑ Yes ☐ No

If Yes,

i. Identify Facilities:

Westcop St Matthews Day Care

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☑ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☐ No

☐ Yes – Spills Incidents database Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑ Yes ☐ No

If yes, provide DEC ID number(s): 546031

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

TBD

v. Is the project site subject to an institutional control limiting property uses? TBD ☐ Yes ☐ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? per NRCS: 2 - 3.5 feet

b. Are there bedrock outcroppings on the project site? ☑ Yes ☐ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? TBD %

c. Predominant soil type(s) present on project site:

Chatfield-Charlton complex, hilly, very rocky	48± %
Charlton-Chatfield complex, rolling, very rocky	42± %
Charlton loam, 2 to 8 percent slopes	10± %

d. What is the average depth to the water table on the project site? Average: >6 feet

e. Drainage status of project site soils:

☑ Well Drained:	86± % of site
☑ Moderately Well Drained:	1± % of site
☑ Poorly Drained	13± % of site

f. Approximate proportion of proposed action site with slopes:

☑ 0-10%:	48± % of site
☐ 10-15%:	% of site
☑ 15% or greater:	52± % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name Unnamed Classification N/A
- Lakes or Ponds: Name N/A Classification N/A
- Wetlands: Name Unnamed Approximate Size 0.32± acre total
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100 year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500 year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑ Yes ☐ No
If Yes:

i. Name of aquifer: Primary Aquifer (Croton River Aquifer), Principal Aquifer (Valley-fill Aquifer and Stratified-Drift Aquifer)

m. Identify the predominant wildlife species that occupy or use the project site: _____

- _____ _____ _____

_____ _____ _____

n. Does the project site contain a designated significant natural community? - ☐ Yes ☑ No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

ii. Source(s) of description or evaluation: Assessment by Bagdon Environmental.

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑ No

-

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

-

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☑ No

If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No

If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No

i. If Yes: acreage(s) on project site? _____

ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☑ Yes ☐ No

If Yes:

i. CEA name: County & State Park Lands, Hudson River

ii. Basis for designation: Exceptional or unique character

iii. Designating agency and date: Date: 1-31-90, Agency: Westchester County

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? ☑ Yes ☐ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☑ Historic Building or District

ii. Name: Old Croton Aqueduct, Brandreth Pill Factory, Hose Company 96 Fire Station (Northside Fire Station)

iii. Brief description of attributes on which listing is based:

1) Led to the selection of Ossining as one of 18 State Heritage area. 2) Being groomed to attract visitors, shoppers and economic development.

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? TBD ☑ Yes ☐ No

If Yes:

i. Describe possible resource(s): Hose Company 96 Fire Station (Northside Fire Station)

ii. Basis for identification: Eligible for National Register List

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: NYS Route 9 is designated as a Scenic Road by the New York State Department of Environmental Conservation

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): New York State Scenic Roads Program

iii. Distance between project and resource: 0.1± miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation:

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Gregg E. Ursprung, P.E. (Agent for Applicant) Date 5/4/17

Signature  Title Sr. Project Mgr.

PRINT FORM

Fiscal Impact Analysis | NOVEMBER

Snowden Woods Apartment Complex | OSSINING, NY

BERGMANN
ASSOCIATES

1. INTRODUCTION

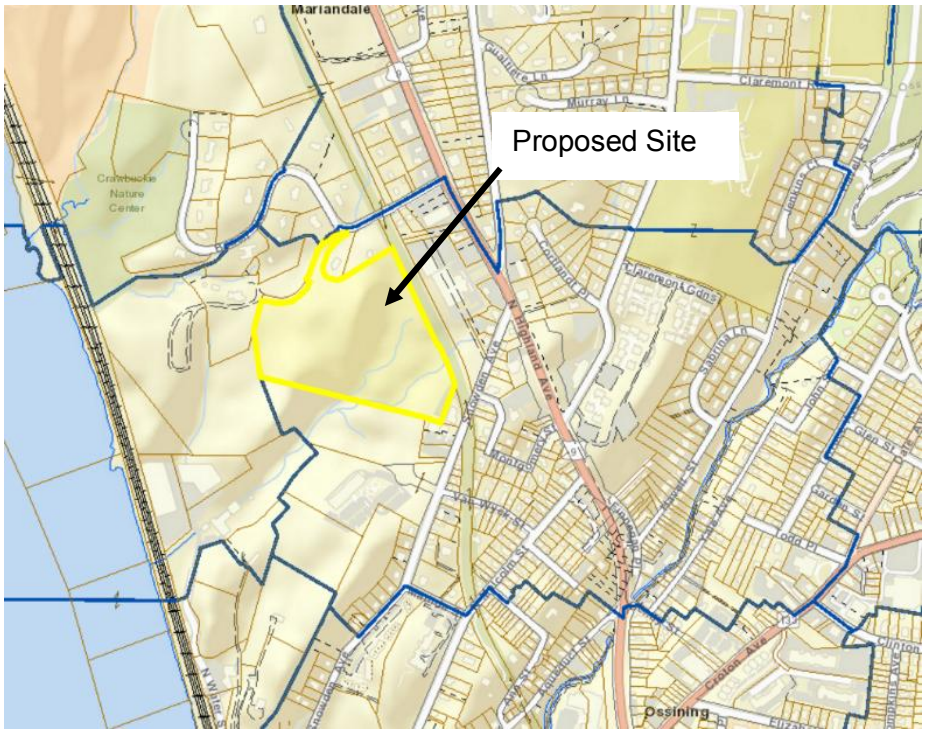
1.1 Background

Ossining River, Inc (Developer) engaged Bergmann Associates to prepare a Fiscal Impact Analysis (FIA) for a proposed apartment complex, referred to as the Snowden Woods Apartment Complex, in the Village of Ossining, NY. The purpose of this FIA is to project public costs and public revenues associated with the development of the Snowden Woods Apartment complex. We understand a significant concern is the potential impact to the Ossining Union Free School District. Therefore, this report estimates public education costs and school property tax revenues resulting from construction and leasing of the project.

1.2 Summary of the Proposed Snowden Woods Apartment Complex

The proposed Snowden Woods Apartment Complex includes 198 one-, two-, and three- bedroom units (Table 1). The complex will be constructed on a vacant, 13.86-acre site located Between Snowden Avenue and Sandy Drive in the Village of Ossining.

Figure 1 Proposed Site



Source: Town of Ossining GIS

The project will include four residential buildings that are each five stories high. There will be 348 parking spaces provided (138 surface parking spaces and 216 below grade).

Table 1. Proposed Unit Mix at Snowden Woods

Unit Type	Affordable	Market	Total
One Bedroom	15	82	97
Two Bedroom	15	82	97
Three Bedroom	1	3	4
Total Units	**30**	**168**	**198**

Source: Bergmann Associates

The size of units will range from 900 square feet for a one-bedroom unit, to 1,600 square feet for a three-bedroom unit, with an average of 1,100 square feet per unit. Rent rates are expected to be approximately $3.00 per square foot, equaling monthly gross rents that range from $2,700 for a one-bedroom unit to $4,800 for a three-bedroom unit.

Snowden Woods will be marketed as a luxury apartment complex, offering proximity to commercial uses and lifestyle amenities, such as the waterfront and trails. The target market is primarily affluent young-professionals and retirees seeking to downsize. Comparable apartment buildings include Avalon Ossining and Harbor Square.

In compliance with the Village of Ossining's Affordable Housing Law, 15 percent of units will be offered at rent levels that will not exceed 30 percent of annual income for families earning 80 percent of Westchester County's Median Family Income.

1.3 The Ossining Union Free School District

The Ossining Union Free School District is ranked one of the best school districts in the New York City metropolitan area. It serves the Town of Ossining, which includes the Village of Ossining and the Village of Briarcliff Manor. The school district also serves portions of the Town of New Castle and the Town of Yorktown. Total enrollment in 2015-16 was listed at 4,936 students, an increase from 4,142 in 2005-06. The total district budget for 2015-16 was $117,213,394.[1]

In 2012, the community approved a $41.6 million bond proposal to fund infrastructure repairs, new boilers, exterior repairs, expansion of the middle school cafeteria and library, and construction of new middle school and high school classrooms. These improvements created new capacity within the district intended to respond to projected future growth in enrollment.

[1] 2016-17 Proposed Budget, Ossining Union Free School District

2. WHAT IS A FISCAL IMPACT ANALYSIS?

A fiscal impact analysis is a type of evaluation method that can help a community make well-informed decisions by identifying the public costs and revenues associated with a proposed project. Fiscal impact analysis does not make decisions, but rather is one of many tools that can help *inform* decision-making within a community. The impact of public costs and revenues is just one many factors that communities consider when reviewing development proposals. We note there are numerous social and environmental impacts not addressed by fiscal impact analysis.

1.4 Definition

Fiscal impact analysis is most effective as an evaluation tool when it is understood in terms of its key features (and limitations): it is generally understood as an estimate of the direct, current and public costs and revenues associated with growth to the jurisdiction in which the growth is taking place. These features are described in detail below:

- **Direct.** Fiscal impact analysis is limited to considering direct costs and revenues and does not consider indirect impacts, such as impacts to neighboring property values or jobs created.
- **Current.** Fiscal impact analysis estimates the current financial impact of development—i.e. as if the project were in use today. Implicit in this is the assumption that changes in costs/prices over time will affect both revenues and costs proportionally (such as inflation) so that the estimate of the current period will stay consistent over time (at least in the near-term).
- **Public.** While development will also have a financial impact on the private sector, fiscal impact analysis only seeks to quantify the cumulative effect on the government's revenues and expenses and not the effect on private interests that are impacted by a development.

It is the features above that generally distinguish a fiscal impact analysis from an economic impact analysis. While a fiscal impact analysis projects the cash flow to the public sector, an economic impact analysis focuses on the cash flow to the private sector, measured in income, jobs, output, and indirect impacts. This report does not include an economic impact analysis.

1.5 Types of Fiscal Impact Analysis

There are multiple types of fiscal impact analysis. [2] The type of method employed for a specific analysis depends on the goal of the analysis, the type of development being analyzed, and the tax structure of the municipality. The

[2] Per Capita Multiplier, Average Cost, Marginal Cost, Case Study, Service Standard, Comparable City, Proportional Valuation, and Employment Anticipation.

per capita method is primarily used for residential development and is among the most commonly used methods used in fiscal impact analysis. This method is described below:

Per Capita Multiplier - Average Cost Method

The average per capita multiplier method is one of the most popular methods of completing a fiscal impact analysis. It involves dividing the budget for a particular service by the current population, which yields an estimated service cost per person. For example, it would be assumed that each additional student will generate the same level of costs to the school district as each existing student currently generates. This method is a good starting point, but can lead to a simplistic and understanding of the impacts of a development. The average cost method often must be qualified to reflect the capacity of existing facilities and other local circumstances.

Per Capita Multiplier - Marginal Cost Method

The marginal cost method examines the *marginal* impact of new development by analyzing demand and supply relationships. This method recognizes that excess and deficient capacity exits in communities. Schools are often financed with long-term debt and constructed with the expectation that they will also serve future growth. Therefore, the incremental cost of providing the service to one new student may not be significant. If, however, the capacity of the facilities is depleted, then new growth may require infrastructure investment that pushes the marginal cost of serving new students higher than the average cost.

Estimating the marginal costs of net new students involves determining the ratio of fixed to marginal costs of education. For example, the average spending per student in New York State is $20,600 per year[3]. A portion of that amount is driven by fixed operational and maintenance costs, meaning if one student leaves a school, that school does not necessarily save $20,600. Likewise, one new student does not necessarily cost a school that amount. This is because a portion of school costs are fixed in the short-term. Transportation, building, equipment, and debt service will not change if one student, or even ten students comes to, or leaves the school. Unless a school is a capacity, the school would have to experience a more significant increase in enrollment before considering the addition of a new classroom and teacher. Further, adding a new teacher would increase instructional costs, but would likely not add significantly to overall administrative costs or other operating costs. Depending on the existing capacity of the school, additional new students would not add to operations, transportation, or maintenance costs of existing buildings or add to demand for new buildings.

This analysis considers the marginal cost of serving additional new students generated by the Snowden Woods Apartment Complex. Details and assumptions used in the analysis are described in more detail in the following sections.

[3] US Census Bureau, NYS Empire Center, 2016

3. COSTS & REVENUES

This section describes the assumptions and methods used to estimate the public costs and revenues resulting from construction of the Snowden Woods Apartment Complex. All costs and revenues are estimated at project stabilization (i.e. as if the project were built and leased today).

1.6 Estimated Costs of School Services

There are two key factors associated with estimating the cost of new school enrollment resulting from the construction of the Snowden Woods Apartment Complex: (1) the number of new students generated by the development and (2) the marginal annual cost of each new student. These two factors are described below:

Estimated School-Aged Children (SAC) Generated

The school-aged children (SAC) projections used in this report are based on a review of SAC generation rates applied to multi-family housing developments in municipalities around the US and New York State[4]. There are numerous factors that impact the number of school aged children generated within a development. These factors include the location of the development, size of units, number of bedrooms, rent charged, amenities offered, number of stories in the building, and parking availability.

Given the multitude of factors that can influence SAC generation rates for a multi-family development, this report analyzed two scenarios. Table 2 summarizes SAC generation for each type of unit using a conservative "worst case" scenario.

Table 2 School-Aged Children (SAC) Generation Rates (High Estimate)

		SAC Rate				
Type	Total Units	Elementary School	Middle School	High School	Total Rate	Total Students
One Bedroom						
Market	82	0.04	0.02	0.01	0.07	6
Affordable	15	0.10	0.10	0.08	0.28	4
Two-Bedroom						
Market	82	0.10	0.04	0.03	0.17	14
Affordable	15	0.20	0.10	0.09	0.39	6
Three-Bedroom						
Market	3	0.34	0.12	0.17	0.63	2
Affordable	1	0.50	0.30	0.20	1.00	1
					Potential students	**32**

Source: Rutgers University Center for Urban Policy Research, Residential Demographic Multipliers. Estimates of the Occupants of New Housing. 2006
Note: Monthly rent thresholds for market and affordable units were inflated to 2016 dollars.

[4] Rutgers University Center for Urban Policy Research, Residential Demographic Multipliers. Estimates of the Occupants of New Housing. 2006.

Error! Not a valid bookmark self-reference. Table 3 summarizes the potential SAC generation rates using a more probable scenario in which one-bedroom units do not generate school aged children.

Table 3 School-Aged Children (SAC) Generation Rates (Mid/Low Estimate)

		SAC Rate				
Type	Total Units	Elementary School	Middle School	High School	Total Rate	Total Students
One Bedroom						
Market	82				0.00	0
Affordable	15				0.00	0
Two-Bedroom						
Market	82	0.10	0.04	0.03	0.17	14
Affordable	15	0.20	0.10	0.09	0.39	6
Three-Bedroom						
Market	3	0.34	0.12	0.17	0.63	2
Affordable	1	0.50	0.30	0.20	1.00	1
Potential students						**22**

It is estimated there will be between 22 and 32 new students generated as a result of the Snowden Woods Apartment Complex (at stabilization).

For purposes of calculating the total education costs, this report uses the scenario that generates the highest number of new students. However, it is noted that both scenarios are somewhat conservative and likely overstate the number of potential new students generated by the development for the following reasons:

- Snowden Woods will be marketed to young professionals, singles, and retirees seeking to downsize. These groups tend to have fewer children than the general population.
- One- and two-bedroom units in luxury apartment buildings typically attract fewer families than other housing types (such as single family homes, townhomes, and garden apartments) and therefore generate fewer school-aged children than other housing types. In many cases, one-bedroom units are not included in SAC generation estimates. This analysis applies a relatively conservative approach by including one-bedroom units.
- Rent ranges are relatively high given the median income in Westchester County. Higher rents are correlated with lower student generation rates.
- These SAC rates do not account for families that may relocate to Snowden Woods from elsewhere within the same school district, thus not resulting in net new students.

Marginal Cost of New Students

Some school costs will not change unless there is a significant increase or decrease in the number of students. These “fixed” costs include debt service, transportation, administration, and operations/maintenance of buildings.

Other costs, however, may be more directly impacted by the addition of new students. These costs are usually classified as "instructional" and include enrichment programs, health and counseling, special education, and text books. Teacher salaries are included in the instructional category, though they are less likely to be affected, as additional teaching staff typically would not be required unless there were a significant number of new students added to one school (depending on current capacity).

This analysis estimates the marginal cost of new students by using the proportion of the school budget allocated for instruction, which includes teacher salaries. For purposes of this analysis, teacher benefits are also included in in the proportion of budget allocated to the marginal cost of new students.

Table 4 illustrates the Ossining Union Free School District's 2015-2016 budget allocation for different types of school district expenditures. Approximately 75 percent of the school budget is allocated to expenditures classified as "instructional" and "employee benefits," with the remaining allocated to fixed costs, such as operations, maintenance, transportation, administration, and debt service.

Table 4 Ossining Union Free School District Budget Categories

Budget Category	Percent of total
Instructional	51.3%
O&M	5.3%
Employee Benefits	23.2%
Central Services	3.5%
Deb Service & Interfund	6.4%
Administration	3.3%
Transportation	5.8%
Non-Public	1.5%
Total	**100%**

Source: Ossining Union Free School District, 2015-2016 Budget

The total 2015-2016 school budget was $117,213,394, of which $20,873,065 is attributed to non-property tax revenues (including state aid). This leaves $96,340,329 to be raised by the local tax levy. The Town of Ossining's share of the school tax levy is $84,529,406 (approximately 88% of the total). When divided by the number of students enrolled, this equals an average cost of $17,125 per student. After accounting for the 75 percent proportion of costs attributed to instruction and teacher benefits, **the marginal annual cost per student is $12,844.**

Total Costs

The total educational cost is calculated by multiplying the marginal cost per student ($12,844) by the number of new students generated (32). **The total annual education cost of new students generated by the Snowden Woods**

Apartment Complex would range from $285,983 to $408,496. This calculation is summarized in Table 5.

Table 5 Total Estimated Annual Education Costs (low and high)

	Amount	
Total School Budget (2015-2016)	$117,213,394	
Non property tax revenues (including State Aid)	$20,873,065	
Amount to be raised by Tax Levy	$96,340,329	
Town of Ossining Dollar share of School Tax Levy	$84,529,406	
Total Students Enrolled	4,936	
Instructional & Benefits Portion of Budget	75%	
Average Cost per Student	$17,125	
Marginal Cost Per Student *(average cost x 75% instructional costs)*	$12,762	
	Low	High
Potential New Students Generated	22	32
Estimated Total Cost *(marginal cost per student X new students generated)*	**$285,983**	**$408,496**

Source: 2016-2017 Proposed Budget Ossining Union Free School District
Note: Town of Ossining's share of the school tax levy is approximately 88 percent. The Towns of New Castle and Yorktown make up the remainder of the tax levy.

1.7 Estimated Revenues

Revenues generated for the Ossining Union Free School District by the Snowden Woods Project will come from real property tax revenues, as there are no other ongoing or one-time fees generated for the school district (such as school impact fees).

There are two steps necessary to calculate real property tax revenues generated by the Snowden Woods Apartment Complex project: (1) estimate the assessment value of the project and (2) apply the school tax rate to the assessment value. All revenues are estimated at project stabilization. The results are illustrated in Table 6 and further explained below:

Assessment value

Because the site is vacant and the project has not been constructed, it is necessary to estimate the future assessment value for the apartment complex as if it were built and leased today (i.e. at stabilization). The Town of Ossining Assessor uses the "income approach" to determine the assessment value of commercial apartment buildings[5]. The income approach examines how much income a property will produce at stabilization, taking into account vacancy rates, credit losses, and operating expenses (with the exception of property taxes).

The income generated less expenses is referred to as the net operating income (NOI)[6]. The income generated by the Snowden Woods Apartment Complex project is based on an estimated rental rate of $3.00 per square foot for market rate units and $1.50 to $2.00 for affordable units. The estimated rents for affordable units accounts for the Village of Ossining's

[5] Phone conversation with Fernando Gonzalez, IAO, Town Assessor, on October 28, 2016.
6 NOI does not include debt service or depreciation.

Affordable Housing Law, under which 15 percent of units must be offered at rent levels that will not exceed 30% of annual income for families earning 80 percent of Westchester County's Median Family Income (MFI).

The total value of the project is calculated by dividing the Net Operating Income by the capitalization rate of 11 percent[7].

School tax rate

The Ossining Union Free School District tax rate is $25.13 per $1,000 of assessed value[8]. The equalization rate in the Town of Ossining is 100 percent, meaning that the school tax rate is applied to the full market value of the property. Apartments are not eligible for exemptions (such as STAR).

Total revenues

The total school property tax revenues generated by the project are calculated by multiplying the assessed value of the proposed project ($38,372,324 by the school tax rate ($25.13 per $1,000). **This calculation yields $964,297 in annual school tax revenue generated by the Snowden Woods Apartment Complex project (Table 6).**

Table 6 Assessed Value and School Tax Revenues

Net Operating Income (NOI)	
Annual NOI *(monthly NOI x 12)*	$4,220,956

Assessed Value (AV)	
Capitalization Rate	11%
Value *(NOI ÷ cap rate)*	$38,372,324
Equalization Rate	100%
Assessed Value *(value x equalization rate)*	$38,372,324

Public Revenues	
School Tax Rate *(Per $1,000 AV)*	$25.13
Annual School Tax Revenue *(tax rate x AV)*	**$964,297**

Source: Bergmann Associates, 2016
Notes: Vacancy and credit losses estimated based on regional averages.
Capitalization rate provided by the Town of Ossining Assessor for October 2016.

7 The Town of Ossining applies a capitalization rate between 10 and 11 percent.
8 Town of Ossining consolidated tax rates, 2015. Village of Ossining and Ossining Schools.

4. SUMMARY OF FISCAL IMPACT

The results of the fiscal impact analysis are summarized in Table 7. The Snowden Woods Apartment Complex would cost the school district $408,496, while generating $964,297 per year in school tax revenues. This is a ratio of 3:1, meaning the Snowden Woods Apartment Complex would generate $3.00 in tax revenue for every dollar spent educating new students. **The net fiscal impact (benefit) to the school district is $555,800.**

Table 7 Fiscal Impact Summary

Fiscal Summary		
Total New Students	22	32
Total Annual Revenues	$964,297	$964,297
Total Annual Costs	$285,983	$408,496
Net Annual Fiscal Impact	**$678,313**	**$555,800**

5. APPENDIX A: DEFINITIONS:

Capitalization Rate: A measure of the ratio between the net operating income produced by an asset and its capital cost (the original price paid to buy the asset) or alternatively its current market value. The capitalization rate is equal to the net operating income divided by the current market value.

Equalization Rate: Assessed value of the real property in a town as determined by the local assessor divided by the state's appraised value of that same real property. This ratio is stated as a percentage. At an equalization rate of 100 percent, assessments are at full market value.

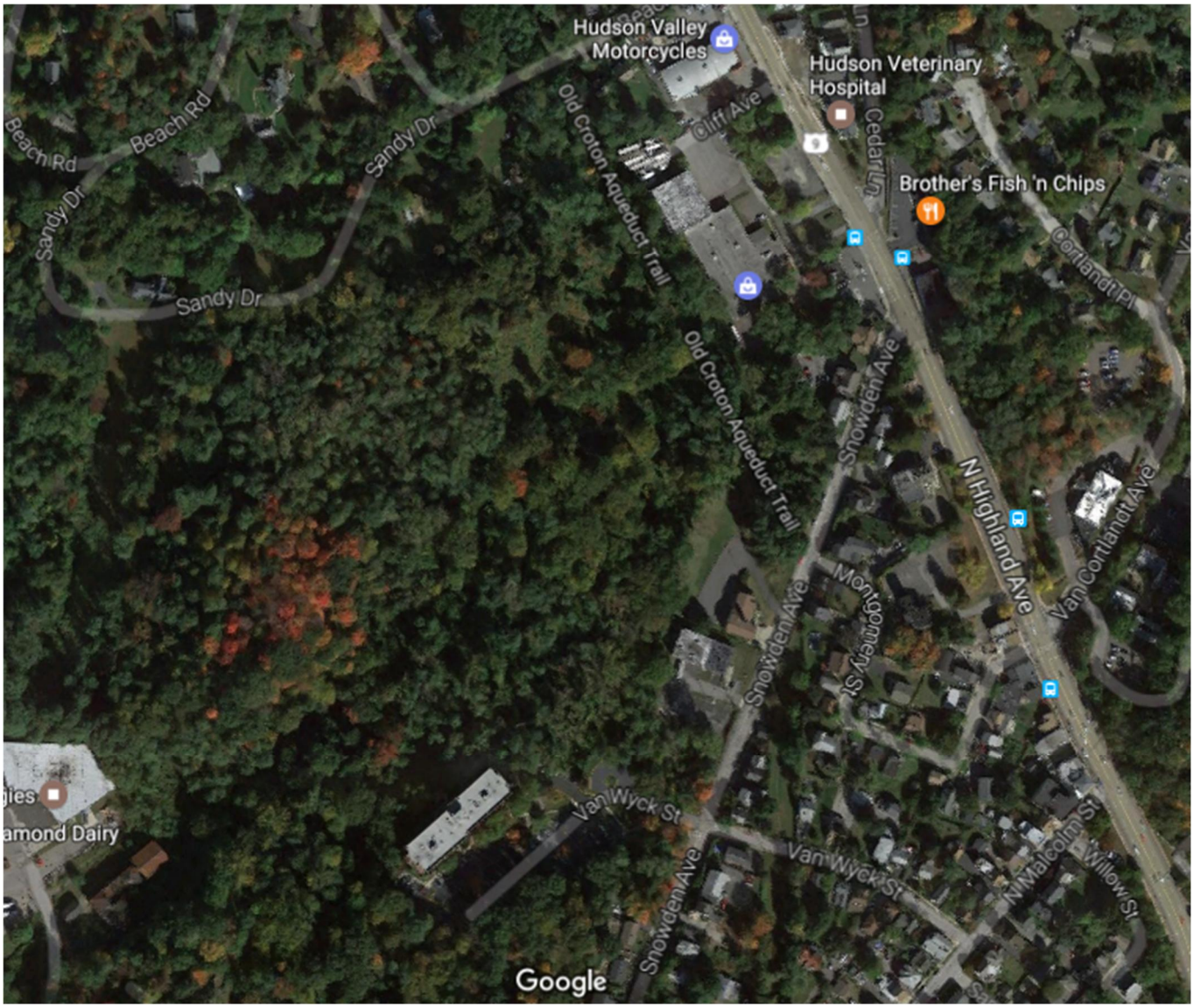
Net Operating Income (NOI): Gross operating income less operating expenses. NOI does not include debt service or depreciation.

Stabilization: The long-term average occupancy rate that an income-producing property is expected to achieve after exposure for leasing in the open market for a reasonable period of time at terms and conditions comparable to competitive offerings.

Vacancy and Credit Losses: Income lost due to tenants vacating the property and/or tenants defaulting (not paying) their lease payments.

Bergmann associates
architects // engineers // planners

SNOWDEN WOODS
TRAFFIC IMPACT STUDY



VILLAGE OF OSSINING

Northwest of Snowden Avenue / West of Highland Avenue (U.S. Route 9) / January 2017

10B Madison Avenue Extension // Albany, NY 12203-7314 // tel: 518.862.0325

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I. Purpose and Scope

The subject of this Traffic Impact Study (TIS) is the proposed residential development located northwest of Snowden Avenue and west of Highland Avenue (U.S. Route 9) in the Village of Ossining. The site plan is shown in Appendix A and completion of the project is targeted for 2019. The development will consist of 198 apartments, a 7,600 square foot (SF) Community Center and a 10,100 SF Fire Station. The proposed site access is comprised of one full access unsignalized driveway to Snowden Avenue with one enter lane and one exit lane.

A regional project location map is shown in Figure 1. See Figure 2 for the site location. The purpose of the TIS is to document the existing traffic conditions of the study area and to evaluate the estimated future traffic conditions and impacts as a result of the development.

Figure 1 - Regional Location Map

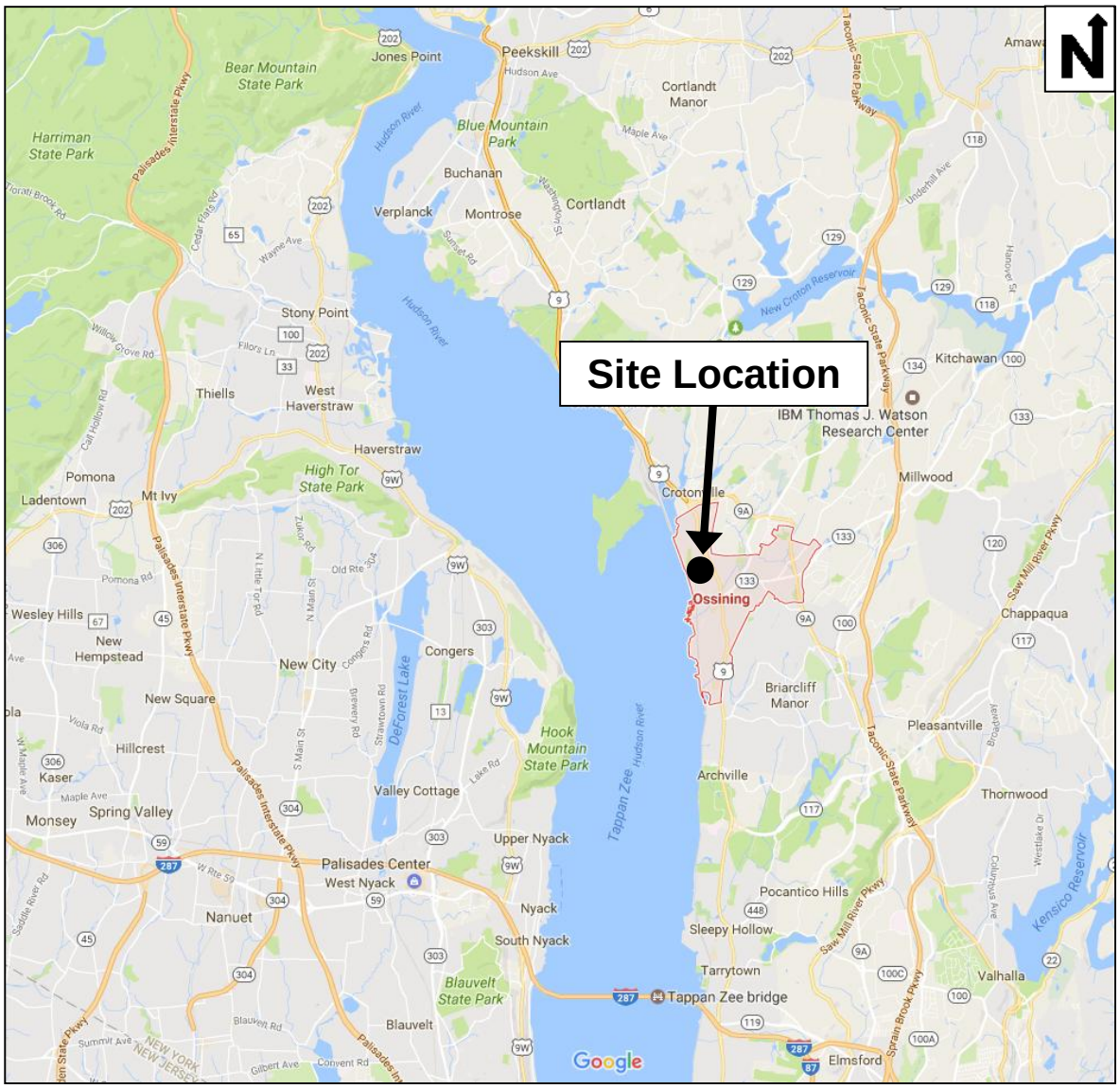
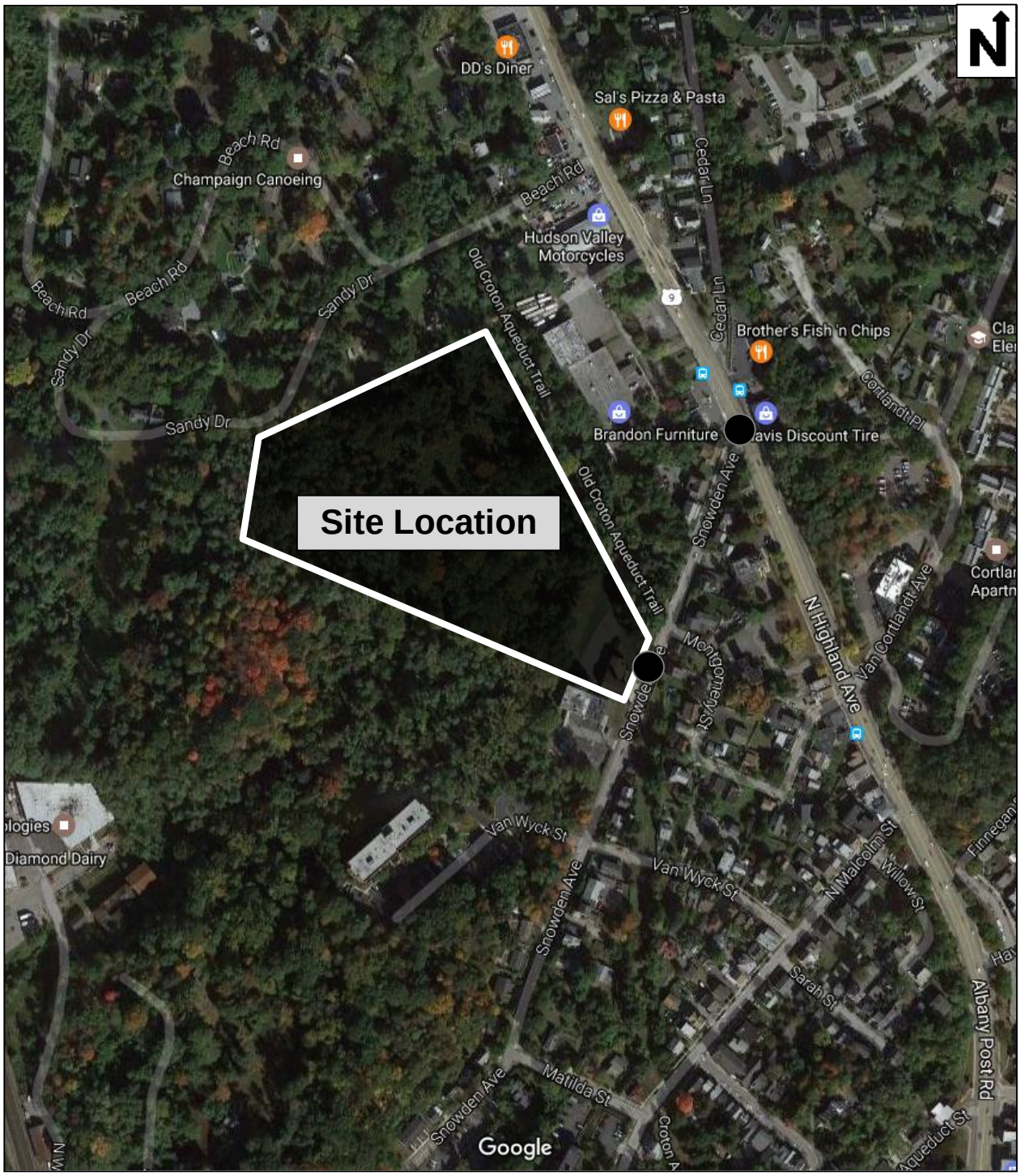


Figure 2 - Site Location Map



The following systematic procedure was used:

1. Review to obtain roadway and intersection geometry.

2. Manual turning movement counts at the following two (2) intersections were conducted:
   - Snowden Avenue at Highland Avenue (U.S. Route 9)
   - Snowden Avenue at the existing Fire Station

   The intersections are shown in Figure 2 signified with black dots.

3. Determine the existing weekday AM and PM peak hour turning movements at the intersections.

4. Define the trips generated by the proposed development.

5. Distribute the new trips through the study area.

6. Estimate projected 2019 traffic at the intersections.

7. Evaluate traffic operations at the subject intersections under:
   - Existing conditions
   - Future (2019) No-Build conditions
   - Future (2019) Full Build conditions (with the residential development traffic)

The analyses and evaluations in this report have been performed using standard traffic engineering methodologies in accordance with the 9th edition ITE Trip Generation Manual. Data used in this impact assessment has been collected from field investigations, field visits (including vehicular traffic counts), developer plans, and the New York State Department of Transportation (NYSDOT).

II. Existing Roadway System

Highland Avenue (U.S. Route 9)

Highland Avenue is classified as an urban principal arterial. The Annual Average Daily Traffic (AADT) on Highland Avenue between Route 133 and Route 9A is approximately 18,500 vehicles per day (vpd) according to the NYSDOT Traffic Data Report for New York State (2015 AADT).

Highland Avenue is a four-lane roadway that provides normal two-way traffic flow with two through lanes in each direction at Snowden Avenue. Approximately 200 feet north of Snowden Avenue, the roadway transitions to a two-lane roadway. Highland Avenue is generally straight and level with slight curvature in the vicinity of Snowden Avenue. The posted speed limit is 30 mph in the study area. The intersection of Highland Avenue and Snowden Avenue is controlled by a multi-phase semi-actuated traffic signal.

Snowden Avenue

Snowden Avenue is classified as an urban major collector with one lane in each direction. The alignment of Snowden Avenue is generally straight near the development site. The vertical profile of the roadway has a slight crest curve north of the site driveway and a slight sag curve south of the driveway. The speed limit on Snowden Avenue is 30 mph.

The Annual Average Daily Traffic (AADT) on Snowden Avenue is approximately 2,100 vehicles per day (vpd) according to the NYSDOT Traffic Data Report for New York State (2015 estimated AADT).

Stopping sight distances are adequate for vehicles approaching the development driveway on Snowden Avenue from both directions according to AASHTO recommendations. The available and AASHTO recommended Stopping Sight Distances (SSD's) are summarized below.

Intersection	Approach	Available SSD	AASHTO Recommended SSD for Speed Limit
Snowden Avenue @ the development driveway (Speed Limit = 30 mph)	Northeastbound	>350 feet	197 feet
	Southwestbound	>350 feet	197 feet

Motorists stopped on the driveway exit will have adequate sight distance to view vehicles approaching from the north and south on Snowden Avenue according to AASHTO recommendations with prohibition of parking on the northwest side of Snowden Avenue for a distance of approximately 250 feet north of the development driveway. The following photograph shows parked cars impeding the view of motorist exiting the development driveway:

The available and the AASHTO recommended intersection sight distances (ISD) are summarized below. The intersection sight distance for vehicles exiting the driveway is greater than 400 feet to the right and approximately 335 feet to the left with the recommended parking prohibition.

Major Roadway	Approach	Available ISD to the Left	Available ISD to the Right	AASHTO Recommended for Speed Limit
Snowden Avenue (Speed Limit = 30 mph)	Driveway Exit	335 feet[1]	>400 feet	331 feet[2]

[1] Prohibition of parking for a distance of 250 feet is required on the northwest side of Snowden Avenue to provide adequate intersection sight distance to the left for drivers exiting the development driveway according to AASHTO recommends.

[2] AASHTO recommended intersection sight distance for a stopped passenger car to turn left onto a two-lane highway for the speed limit of 30 mph along the two-lane highway.

III. Existing Traffic Conditions

A. Existing Traffic Volumes

Bergmann Associates conducted manual turning movement counts on Tuesday, November 29, 2016 from 7:00 to 9:00 AM and from 2:00 to 6:00 PM at the intersection of Snowden Avenue with Highland Avenue (U.S. Route 9). Intersection counts were also conducted at the intersection of Snowden Avenue at the existing Fire Station to determine existing traffic operations and existing trip generation. Figure 2 depicts the location of the two intersections.

The traffic count time periods were chosen because the combined traffic of the adjacent roads and the land developments generally peak during these time periods. The traffic counts were recorded by 15-minute increments to enable identification of specific peak hours and traffic peaking characteristics within the peak hour. Detailed count data are contained in Appendix B. Figure 3 contains the existing peak hour traffic volumes at the subject intersections and Appendix C contains all the peak hour traffic diagrams including existing, no build and full build conditions.

B. Existing Levels of Service

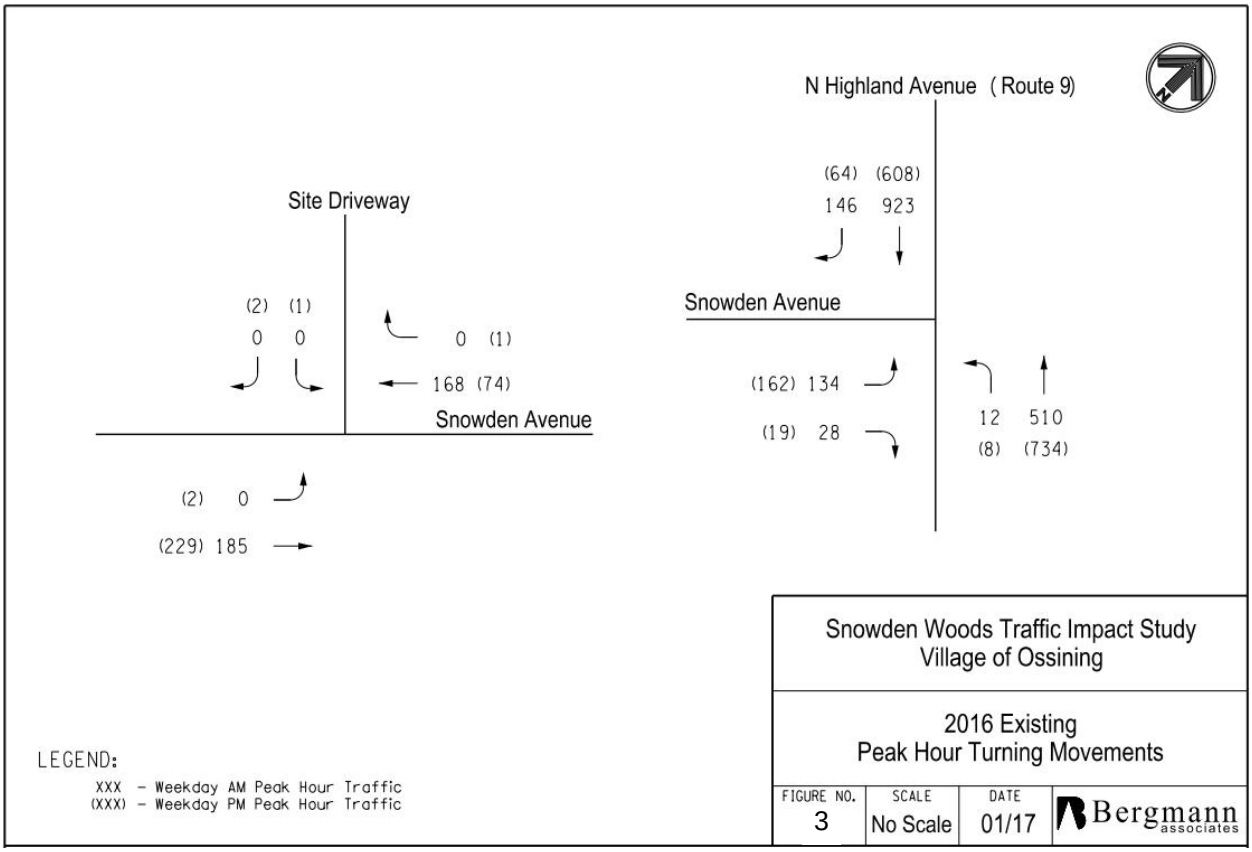
Level of Service (LOS) analysis is a means of determining the ability of an intersection to accommodate traffic volumes. The analysis is based on intersection street geometry, traffic controls and traffic maneuvers. The analysis produces an indication of the Level of Service at which an intersection is functioning or is expected to function for future conditions.

The Level of Service procedures are provided in the Highway Capacity Manual (HCM) published by the Transportation Research Board, 2010. Version 8 of Synchro was utilized to

determine the LOS for the subject intersections. Synchro implements the methods of the HCM for signalized and unsignalized intersection analyses.

Level of Service is defined by letter characters that range from A to F, with A representing the best traffic operating conditions that have little or no delay and F characterizing the worst conditions that have significant delay. LOS A through D are usually considered acceptable and LOS E is usually considered representative of conditions where improvements are needed. LOS F operating conditions are typically unacceptable, and improvements are needed in the form of traffic control, geometric changes or a combination of both.

Figure 3 – Existing Peak Hour Turning Movements



Levels of service for signalized and unsignalized intersections are identified by the average control delay experienced by vehicles in seconds/vehicle. LOS for signalized intersections is determined for each traffic movement and the total intersection. The range of seconds of control delay defining level of service is different for signalized and unsignalized intersections, so the LOS results should not be compared to one another. Full definitions of levels of service for signalized and unsignalized intersections are included in Appendix D. Table 1 shows the range of delay defining LOS for signalized intersections. Table 2 shows the range of delay defining LOS for unsignalized intersections.

Table 1. Level of Service Ranges for Signalized Intersections

LOS	CONTROL DELAY PER VEHICLE (seconds)
A	Less than or equal to 10.0
B	Greater than 10.0 to no more than 20.0
C	Greater than 20.0 to no more than 35.0
D	Greater than 35.0 to no more than 55.0
E	Greater than 55.0 to no more than 80.0
F	Greater than 80.0

Table 2. Level of Service for Ranges Unsignalized Intersections

LOS	CONTROL DELAY PER VEHICLE (seconds)
A	Less than or equal to 10.0
B	Greater than 10.0 to no more than 15.0
C	Greater than 15.0 to no more than 25.0
D	Greater than 25.0 to no more than 35.0
E	Greater than 35.0 to no more than 50.0
F	Greater than 50.0

Existing Traffic Operations

The existing traffic operations during the peak hours at the subject intersections range from LOS A to E for all traffic movements according to Synchro. Level of service analysis results for the intersections are provided in Table 3 and described below. Detailed Synchro level of service analysis results are contained in Appendix D.

TABLE 3
EXISTING SYNCHRO LEVEL OF SERVICE RESULTS

Intersection	Approach			Existing Conditions			
				Weekday AM Peak		Weekday PM Peak	
				LOS	Control Delay (seconds/ vehicle)	LOS	Control Delay (seconds/ vehicle)
Snowden Avenue at Highland Avenue (U.S. Route 9) Signalized	Snowden Ave.	Eastbound	LR	E	55.1	E	56.1
		Eastbound	Approach	E	55.1	E	56.1
	U.S. Route 9	Northbound	LT T	B	12.7	B	13.9
		Northbound	Approach	B	12.7	B	13.9
	U.S. Route 9	Southbound	T TR	A	5.2	A	4.3
		Southbound	Approach	A	5.2	A	4.3
	Overall			B	12.0	B	14.6
Snowden Avenue at existing Fire Station driveway Unsignalized	Snowden Ave.	Eastbound	LT	A	0.0	A	9.4
		Eastbound	Approach	A	0.0	A	9.4
	Snowden Ave.	Westbound	TR	A	0.0	A	0.1
		Westbound	Approach	A	0.0	A	0.1
	Driveway	Southbound	LR	A	0.0	A	0.0
		Southbound	Approach	A	0.0	A	0.0
	Overall			A	0.0	A	0.2

LR: Shared Left and Right TR: Shared Through and Right
LT: Shared Left and Through LTR: Shared Left, Through, and Right

The **signalized intersection of Snowden Avenue at Highland Avenue (U.S. Route 9)** operates overall at LOS B during the Weekday AM and PM peak hours. The Highland Avenue approaches operate at LOS A and B. The Snowden Avenue approach operates at LOS E during the peak hours.

The **unsignalized intersection of Snowden Avenue at the existing Fire Station driveway** operates overall at LOS A during the Weekday AM and PM peak hours. The Snowden Avenue approaches operate at LOS A and the existing Fire Station driveway operates at LOS A.

IV. 2019 No Build Traffic Evaluation

A. 2019 No-Build Traffic

To project the No-Build peak hour traffic volumes (background traffic), the existing peak hour volumes were increased by 1% per year to account for new growth and development based on a review of the historic traffic volume trends in the area. Trends show a decrease on Snowden

Avenue and an annual growth rate of approximately 1% on Route 9 since 2006. The projected 2019 No-Build traffic at the intersections is shown in Appendix C, Figure C2.

B. 2019 No-Build Levels of Service

The No-Build condition takes into account background growth in traffic (1.0% annually based on historic traffic volume trends to account for the rate of area development). The 2019 No Build traffic operations at the subject intersections are similar to existing operations and are projected to continue to range from LOS A to E for all traffic movements according to Synchro. Level of service analysis results for the intersections are provided in Table 4 and described below. Detailed No Build Synchro level of service analysis results are contained in Appendix E.

TABLE 4
NO BUILD SYNCHRO LEVEL OF SERVICE RESULTS

Intersection	Approach			No Build Conditions			
				Weekday AM Peak		Weekday PM Peak	
				LOS	Control Delay (seconds/ vehicle)	LOS	Control Delay (seconds/ vehicle)
Snowden Avenue at Highland Avenue (U.S. Route 9) Signalized	Snowden Ave.	Eastbound	LR	E	55.6	E	56.6
		Eastbound	Approach	E	55.6	E	56.6
	U.S. Route 9	Northbound	LT T	B	12.9	B	14.1
		Northbound	Approach	B	12.9	B	14.1
	U.S. Route 9	Southbound	T TR	A	5.4	A	4.4
		Southbound	Approach	A	5.4	A	4.4
	Overall			B	12.3	B	14.9
Snowden Avenue at existing Fire Station driveway Unsignalized	Snowden Ave.	Eastbound	LT	A	0.0	A	0.1
		Eastbound	Approach	A	0.0	A	0.1
	Snowden Ave.	Westbound	TR	A	0.0	A	0.0
		Westbound	Approach	A	0.0	A	0.0
	Driveway	Southbound	LR	A	0.0	A	9.5
		Southbound	Approach	A	0.0	A	9.5
	Overall			A	0.0	A	0.2

LR: Shared Left and Right TR: Shared Through and Right
LT: Shared Left and Through LTR: Shared Left, Through, and Right

The **signalized intersection of Snowden Avenue at Highland Avenue (U.S. Route 9)** is expected to continue to operate overall at LOS B during the Weekday AM and PM peak hours in 2019 without the development (under No Build conditions). The Highland Avenue approaches are expected to continue to operate at LOS A and B. The Snowden Avenue approach is expected to continue to operate at LOS E during the peak hours.

The **unsignalized intersection of Snowden Avenue at the existing Fire Station driveway** is expected to continue to operate overall at LOS A during the Weekday AM and PM peak hours in 2019 under No Build conditions. The Snowden Avenue approaches and the Fire Station driveway are projected to continue to operate at LOS A.

V. 2019 Build Traffic Evaluation

A. Trip Generation

The 9th edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual (latest edition - 2012) was used to determine the trip estimate for the proposed development. The new development will consist of 198 apartments, a 7,600 square foot (SF) Community Center and a 10,100 SF Fire Station. The total number of trips entering and exiting is estimated to be 127 and 168 during the Weekday AM and PM peak hours respectively. A summary of trip generation for the site is shown in Table 5.

TABLE 5
TRIP GENERATION

Weekday AM peak hour

LU Code	Description	Rate/KSF	Size	Trips	% In	In	Out
220	Apartment	equation	198 Units	**101**	20	20	81
495	Community Center	2.05	7.6 Ksf	**16**	66	11	5
	Fire Station	1.00	10.1 Ksf	**10**	50	5	5
	Totals			127		36	91

Weekday PM peak hour

LU Code	Description	Rate/KSF	Size	Trips	% In	In	Out
220	Apartment	equation	198 Units	**127**	65	83	44
495	Community Center	2.74	7.6 Ksf	**21**	49	10	11
	Fire Station	2.00	10.1 Ksf	**20**	50	10	10
	Totals			168		103	65

B. Trip Distribution

This phase of the traffic analysis involves distribution of the projected peak hour traffic generated by the proposed development onto the surrounding roadway system. The projected traffic volume calculated during the trip generation phase are distributed onto the roadway system based on populations in the area of draw and existing and expected traffic patterns.

The percent distribution of the development generated traffic is shown in Appendix C Figure C3. The percentage of new traffic traveling on Snowden Avenue southwest of the new development is 10% and northeast of the development is 90%. To the south 40% is expected on Highland Avenue (U.S. Route 9) and 50% is estimated to the north on Highland Avenue. Figure C4 shows the assignment of the vehicle trips for the subject residential development based on the distribution percentages.

C. 2019 Full Build Traffic

The total projected build traffic volumes (Figure C5 – 2019 Full Build Peak Hour Turning Movements) are the sum of 2019 No Build traffic (2016 Existing Peak Hour Turning Movements plus 1% per year) and the estimated development traffic shown in Figure C4. The sum of Figures C2 and C4 represents the total "Build" traffic after the proposed development is complete and fully occupied.

D. 2019 Full Build Levels of Service

The Full Build condition takes into account estimated no build traffic and the additional traffic (trips) generated by the proposed development. The total number of trips entering and exiting is estimated to be 127 and 168 during the Weekday AM and PM peak hours respectively.

The 2019 Full Build traffic operations during the peak hours at the intersections are projected to range from LOS A to E for all traffic movements according to Synchro. Minor changes to LOS and delay are expected with the development action as compared to No Build conditions. Full Build level of service analysis results for the intersections are provided in Table 6 and described below. No Build LOS is also included in Table 6 for comparative use. Detailed Full Build Synchro level of service results are contained in Appendix F.

The **signalized intersection of Snowden Avenue at Highland Avenue (U.S. Route 9)** is expected to continue to operate overall at LOS B during the Weekday AM and PM peak hours in 2019 with the inclusion of development traffic (under Full Build conditions). The increase to overall intersection control delay will be 4.4 seconds during the AM peak hour and 3.3 seconds during the PM peak hour based on the analysis. The Highland Avenue approaches are expected to continue to operate at LOS A and B, and the Snowden Avenue approach is expected to continue to operate at LOS E during the peak hours.

The **unsignalized intersection of Snowden Avenue at the project driveway** is expected to continue to operate overall at LOS A during the Weekday AM and PM peak hours in 2019 under Full Build conditions with an increase to overall intersection control delay of 2.5 seconds for the AM peak hour and 1.6 seconds during the PM peak. The Snowden Avenue approaches operate at LOS B and the Fire Station driveway are projected to continue to operate at LOS A.

TABLE 6
2019 FULL BUILD LEVEL OF SERVICE

Intersection	Approach			No Build Conditions				Full Build Conditions			
				Weekday AM Peak		Weekday PM Peak		Weekday AM Peak		Weekday PM Peak	
				LOS	Control Delay (seconds/ vehicle)	LOS	Control Delay (seconds/ vehicle)	LOS	Control Delay (seconds/ vehicle)	LOS	Control Delay (seconds/ vehicle)
Snowden Avenue at Highland Avenue (U.S. Route 9) Signalized	Snowden	Eastbound	LR	E	55.6	E	56.6	E	67.4	E	64.4
		Eastbound	Approach	E	55.6	E	56.6	E	67.4	E	64.4
	Route 9	Northbound	LT T	B	12.9	B	14.1	B	14.5	B	16.3
		Northbound	Approach	B	12.9	B	14.1	B	14.5	B	16.3
	Route 9	Southbound	T TR	A	5.4	A	4.4	A	6.4	A	4.9
		Southbound	Approach	A	5.4	A	4.4	A	6.4	A	4.9
	Overall			B	12.3	B	14.9	B	16.7	B	18.2
Snowden Avenue at the project driveway Unsignalized	Snowden	Eastbound	LT	A	0.0	A	0.1	A	0.2	A	0.3
		Eastbound	Approach	A	0.0	A	0.1	A	0.2	A	0.3
	Snowden	Westbound	TR	A	0.0	A	0.0	A	0.0	A	0.0
		Westbound	Approach	A	0.0	A	0.0	A	0.0	A	0.0
	Driveway	Southbound	LR	A	0.0	A	9.5	B	12.9	B	12.2
		Southbound	Approach	A	0.0	A	9.5	B	12.9	B	12.2
	Overall			A	0.0	A	0.2	A	2.5	A	1.8

LR: Shared Left and Right TR: Shared Through and Right
LT: Shared Left and Through LTR: Shared Left, Through, and Right

The impacts to delay shown in Table 6 are all less than a whole letter grade of degradation and improvement can be achieved at the Route 9 intersection with signal retiming as shown in Table 7. The impacts can be balanced better by roadway and roadway function by taking 5 seconds of the traffic signal green time from Route 9 and giving this time to Snowden Avenue during the AM peak hour. The same retiming is recommended for the PM peak, yet with taking 6 seconds from Route 9 and adding 6 seconds to the Snowden Avenue signal phase. Table 7 with the recommended signal retiming demonstrates the rebalancing of delays that can be expected with retiming the signal splits in the future as the development is built out and fully occupied.

The 2019 Build with signal retiming traffic operations during peak hours are projected to range from LOS A to D for all traffic movements according to Synchro. Minor changes to LOS and delay are expected with the development action as compared to No Build conditions with the proposed signal retiming. Build with signal retiming level of service analysis results for the intersections are provided in Table 7. Detailed Build Synchro level of service results are contained in Appendix G.

TABLE 7
FULL BUILD WITH SIGNAL RETIMING LEVEL OF SERVICE

Intersection	Approach			Full Build Conditions				Full Build Conditions With Signal Retiming			
				Weekday AM Peak		Weekday PM Peak		Weekday AM Peak		Weekday PM Peak	
				LOS	Control Delay (seconds/ vehicle)	LOS	Control Delay (seconds/ vehicle)	LOS	Control Delay (seconds/ vehicle)	LOS	Control Delay (seconds/ vehicle)
Snowden Avenue at Highland Avenue (U.S. Route 9) Signalized	Snowden	Eastbound	LR	E	67.4	E	64.4	D	53.7	D	54.0
		Eastbound	Approach	E	67.4	E	64.4	D	53.7	D	54.0
	Route 9	Northbound	LT T	B	14.5	B	16.3	B	16.4	B	18.0
		Northbound	Approach	B	14.5	B	16.3	B	16.4	B	18.0
	Route 9	Southbound	T TR	A	6.4	A	4.9	A	7.6	A	5.7
		Southbound	Approach	A	6.4	A	4.9	A	7.6	A	5.7
	Overall			B	16.7	B	18.2	B	16.1	B	17.8

LR: Shared Left and Right TR: Shared Through and Right
LT: Shared Left and Through LTR: Shared Left, Through, and Right

VI. Summary and Conclusions

The subject of this Traffic Impact Study is the proposed new residential development located northwest of Snowden Avenue and west of Highland Avenue (U.S. Route 9) in the Village of Ossining. Completion of the project is targeted for 2019. The new development will consist of 198 apartments, a 7,600 square foot (SF) Community Center and a 10,100 SF Fire Station. The proposed site access is comprised of one full access unsignalized driveway to Snowden Avenue with one enter lane and one exit lane.

A. Existing Conditions

The existing traffic operations during the peak hours at the subject intersections range from LOS A to E for all traffic movements according to Synchro.

The **signalized intersection of Snowden Avenue at Highland Avenue (U.S. Route 9)** operates overall at LOS B during the Weekday AM and PM peak hours. The Highland Avenue approaches operate at LOS A and B. The Snowden Avenue approach operates at LOS E during the peak hours.

The **unsignalized intersection of Snowden Avenue at the existing Fire Station driveway** operates overall at LOS A during the Weekday AM and PM peak hours. The Snowden Avenue approaches operate at LOS A and the existing Fire Station driveway operates at LOS A.

Stopping sight distances are adequate for vehicles approaching the development driveway on Snowden Avenue from both directions according to AASHTO recommendations. The available and AASHTO recommended Stopping Sight Distances (SSD's) are summarized below.

Intersection	Approach	Available SSD	AASHTO Recommended SSD for Speed Limit
Snowden Avenue @ the development driveway (Speed Limit = 30 mph)	Northeastbound	>350 feet	197 feet
	Southwestbound	>350 feet	197 feet

Motorists stopped on the driveway exit will have adequate sight distance (intersection sight distance) to view vehicles approaching from the north and south on Snowden Avenue according to AASHTO recommendations with prohibition of parking on the northwest side of Snowden Avenue for a distance of approximately 250 feet north of the development driveway. The AASHTO recommended intersection sight distance is 331 feet and the available intersection sight distance for vehicles exiting the driveway is greater than 400 feet to the right and approximately 335 feet to the left with the recommended parking prohibition.

B. 2019 No Build Conditions

To project the No-Build peak hour traffic volumes (background traffic), the existing peak hour volumes were increased by 1% per year to account for new growth and development based on a review of the historic traffic volume trends in the area. Trends show a decrease on Snowden Avenue and an annual growth rate of approximately 1% on Route 9 since 2006. The 2019 No Build traffic operations at the subject intersections are similar to existing operations and are projected to continue to range from LOS A to E for all traffic movements according to Synchro.

C. 2019 Full Build Conditions

The Build condition takes into account estimated no build traffic and additional traffic generated by the proposed development. The 9th edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual (latest edition - 2012) was used to determine the trip estimate for the proposed development. The new development will consist of 198 apartments, a 7,600 square foot (SF) Community Center and a 10,100 SF Fire Station. The total number of trips entering and exiting is estimated to be 127 and 168 during the Weekday AM and PM peak hours respectively.

Trip Distribution

The distribution of the projected peak hour traffic generated by the proposed development onto the surrounding roadway system is based on populations in the area of draw and existing and expected traffic patterns. The percentage of new traffic traveling on Snowden Avenue southwest of the new development is 10% and northeast of the development is 90%. On Highland Avenue (U.S. Route 9) to the south 40% is expected and 50% is estimated to the north on Highland Avenue.

Level of Service

The 2019 Full Build traffic operations during the peak hours at the intersections are projected to range from LOS A to E for all traffic movements according to Synchro. Minor changes to LOS and delay are expected with the development action as compared to No Build conditions.

The **signalized intersection of Snowden Avenue at Highland Avenue (U.S. Route 9)** is expected to continue to operate overall at LOS B during the Weekday AM and PM peak hours in 2019 with the inclusion of development traffic (under Full Build conditions). The increase to overall intersection control delay will be 4.4 seconds during the AM peak hour and 3.3 seconds during the PM peak hour based on the analysis. The Highland Avenue approaches are expected to continue to operate at LOS A and B, and the Snowden Avenue approach is expected to continue to operate at LOS E during the peak hours.

The **unsignalized intersection of Snowden Avenue at the existing Fire Station driveway** is expected to continue to operate overall at LOS A during the Weekday AM and PM peak hours in 2019 under Full Build conditions with an increase to overall intersection control delay of 2.5 seconds for the AM peak hour and 1.6 seconds during the PM peak. The Snowden Avenue approaches operate at LOS B and the Fire Station driveway are projected to continue to operate at LOS A.

Impacts to vehicle delays are less than a whole letter grade of degradation for all lanes and improvement can be achieved at the Route 9 intersection with signal retiming as shown in Table 7. The traffic operations can be balanced by roadway and by roadway function by taking 5 seconds of the traffic signal green time from Route 9 and giving this time to Snowden Avenue during the AM peak hour. The same retiming is recommended for the PM peak, yet with taking 6 seconds from Route 9 and adding 6 seconds to the Snowden Avenue signal phase. Table 7 with the recommended signal retiming demonstrates the rebalancing of delays that can be achieved with retiming the signal phase splits in the future as the development is built out and fully occupied.

VII. Recommendations

- No change to the proposed access driveway plan is recommended. The traffic capacity analysis shows traffic operations to be characterized by good LOS based on Synchro 8 results at the driveway.

- Prohibition of parking for a distance of 250 feet is recommended on the northwest side of Snowden Avenue to provide adequate intersection sight distance for drivers exiting the development driveway in order to meet AASHTO sight distance recommendations.

- Signal timing adjustments are recommended for the Snowden Avenue / U.S. Route 9 intersection. This is expected to improve traffic operations for both future no build and future build conditions due to the pre-existing LOS E on the Snowden Avenue approach to U.S. Route 9. Traffic impacts expected from the proposed development action are minor and can be balanced for the function of each roadway by retiming the traffic signal, as shown in Table 7.

Appendix A

Site Plan

Bergmann associates

SITE DATA CHART

ZONING DISTRICT: CDD: CONSERVATION DEVELOPMENT DISTRICT / S-125: ONE-FAMILY RESIDENCE

	REQUIRED (CDD)	REQUIRED (S-125)	PROPOSED (CDD)	EXIST RESIDENTIAL LOT (S-125)
MINIMUM LOT AREA	2 ACRES	0.34 ACRES	13.86 ACRES (SEE NOTE 6)	0.54 ACRES (SEE NOTE 8)
MAXIMUM BUILDING WIDTH FOR EACH STRUCTURE/OPEN AREA	SEE NOTE 1	125 FEET (SEE NOTE 7)	452 FEET / 70%	69 FEET
BUFFER FOR LOTS ABUTTING A RESIDENTIAL DISTRICT	25 FEET	N/A	25 FEET MIN	N/A
BUILDING, PARKING AND LOADING SETBACK				
MINIMUM FRONT YARD	30 FEET	45 FEET	BLDG: 105 FEET PARKING: 27 FEET	51 FEET
MINIMUM SIDE YARD (ONE)	30 FEET	30 FEET	BLDG: 30 FEET PARKING: 17 FEET	29 FEET*
MINIMUM SIDE YARD (BOTH)	N/A	60 FEET	N/A	74 FEET
MINIMUM REAR YARD	30 FEET	45 FEET	BLDG: 33 FEET PARKING: 100 FEET	53 FEET
MINIMUM DISTANCE BETWEEN ANY TWO BUILDINGS	35 FEET	N/A	102 FEET	N/A
MINIMUM LIVABLE FLOOR AREA PER DWELLING UNIT	N/A	0.02 ACRES	N/A	> 0.02 ACRES
RESIDENTIAL REQUIREMENTS				
DENSITY	SEE NOTE 2	N/A	14.6 UNITS/ACRE	N/A
BEDROOM MIX	SEE NOTE 3	N/A	49% 1 BDR; 49% 2 BDR; 2% 3 BDR	N/A
HEIGHTS				
MAXIMUM BUILDING HEIGHT, WHICHEVER IS LESS	4.0 STORIES/ 48 FEET	2.5 STORIES/ 35 FEET	5.0 STORIES/ 58± FEET	< 2.5 STORIES/ 35 FEET
COVERAGE				
MAXIMUM IMPERVIOUS COVERAGE	50%	30%	38%	28%
MAXIMUM BUILDING COVERAGE	30%	20%	10%	7.4%
OPEN SPACE				
MINIMUM OPEN SPACE	25% (OF LOT AREA)	N/A	62%	N/A

* EXISTING BUILDING WITH NON-CONFORMING BUILDING SETBACK

NOTE:

1. THE TOTAL CUMULATIVE WIDTH OF BUILDINGS, STRUCTURES, SOLID FENCES AND WALLS MORE THAN 36 INCHES IN HEIGHT SHALL NOT OCCUPY MORE THAN 50% OF THE WIDTH OF A PARCEL AS MEASURED ALONG A LINE SUBSTANTIALLY PARALLEL TO THE HUDSON RIVER, AND THE MAXIMUM BUILDING WIDTH FOR EACH STRUCTURE OF BUILDING SHALL NOT BE MORE THAN 75 FEET MEASURED ALONG A LINE SUBSTANTIALLY PARALLEL TO THE HUDSON RIVER. REFERENCE 270-19 FOR ADDITIONAL REQUIREMENTS.
2. BASELINE DENSITY: 6 UNITS PER ACRE UP TO 8 DWELLING UNITS PER ACRE PURSUANT TO 270-19. WETLAND SHALL BE DEDUCTED FROM THE PARCEL AREA WHEN DETERMINING DENSITY. DENSITY BONUS INCENTIVES MAY BE OBTAINED PER 270-19. H.
3. BEDROOM MIX REQUIREMENTS: 10% OF TOTAL UNITS FOR ONE-BEDROOM UNITS OR STUDIOS, 20% OF TOTAL UNITS FOR TWO-BEDROOM UNITS AND 10% OF TOTAL UNITS FOR THREE-BEDROOM UNITS. A WAIVER MAY BE REQUIRED.
4. REFER TO 270-19. G FOR AFFORDABLE HOUSING REQUIREMENTS. APPLICANT MUST PROVIDE AFFORDABLE HOUSING PER CHAPTER 62.
5. SURVEY REFERENCE: SURVEY BASED ON A MAP ENTITLED "ALTA/ACSM LAND TITLE SURVEY", DATED JUNE 3, 2015, PREPARED BY BERGMANN ASSOCIATES.
6. DOES NOT CONSIDER LAND CONVEYANCE BETWEEN OSSINING RIVER ASSOCIATES AND THE VILLAGE.
7. LOTS WITH A GREATER WIDTH THAN THE MINIMUM LOT WIDTH MUST HAVE BOTH SIDE YARD SETBACKS EQUAL TO 40% OF THE LOT WIDTH WITH EACH SIDE YARD EQUALING A MINIMUM OF 45% OF BOTH SIDE YARD SETBACKS.
8. THE EXISTING LOT SIZE IS 0.61 ACRES. THE REDUCED LOT SIZE IS 0.54 ACRES WITH THE LAND PROVIDED FOR EMERGENCY ACCESS.

PROJECT DATA

1. APPLICANT:
   OSSINING RIVER ASSOCIATES, INC.
   51 ROUTE 100
   BRIARCLIFF MANOR, NEW YORK 14607
2. EXISTING ZONING: CDD: CONSERVATION DEVELOPMENT DISTRICT
   S-125: ONE-FAMILY RESIDENCE
3. LOT AREA: 13.86± ACRES (603,876 SF)

OFF-STREET PARKING
CDD DISTRICT – RESIDENTIAL DWELLINGS UNITS
1.25 SPACES FOR AN EFFICIENCY OR STUDIO
1.5 SPACES FOR 1 BEDROOM
2.0 SPACE FOR UNITS WITH 2 OR MORE BEDROOMS

TOTAL DWELLING UNITS PROPOSED = 198
ASSUMPTIONS: 49% FOR 1 BEDROOM = 96 UNITS
49% FOR 2 BEDROOM = 96 UNITS
2% FOR 3 BEDROOM = 4 UNITS

1 BEDROOM:	1.5 X 96 =	146	SPACES REQUIRED
2 BEDROOMS:	2.0 X 96 =	194	SPACES REQUIRED
3 BEDROOMS:	2.0 X 4 =	8	SPACES REQUIRED
		348	TOTAL SPACES REQUIRED
		16	ACCESSIBLE SPACES REQUIRED
SURFACE PARKING		132	TOTAL SPACES PROVIDED
PARKING UNDER BUILDING		216	TOTAL SPACES PROVIDED
		348	TOTAL SPACES PROVIDED
		16	ACCESSIBLE SPACES PROVIDED

CDD DISTRICT – COMMUNITY CENTER
1. 1 SPACE PER 4 SEATS. IF BENCHES OR PEWS ARE PROVIDED, 24 LINEAR INCHES OF BENCH OR PEW SPACE SHALL BE EQUIVALENT TO 1 SEAT. IF NO SEATS ARE PROVIDED, 6 SQUARE FEET OF FLOOR AREA IN EACH ASSEMBLY ROOM AND CLASSROOM SHALL BE EQUIVALENT TO 1 SEAT.

CDD DISTRICT – FIRE STATION
1. THERE IS NO OFF-STREET PARKING REQUIREMENT INDICATED IN ZONING CODE.

DENSITY BONUS PROVISIONS (SECTION 270-19.H.):

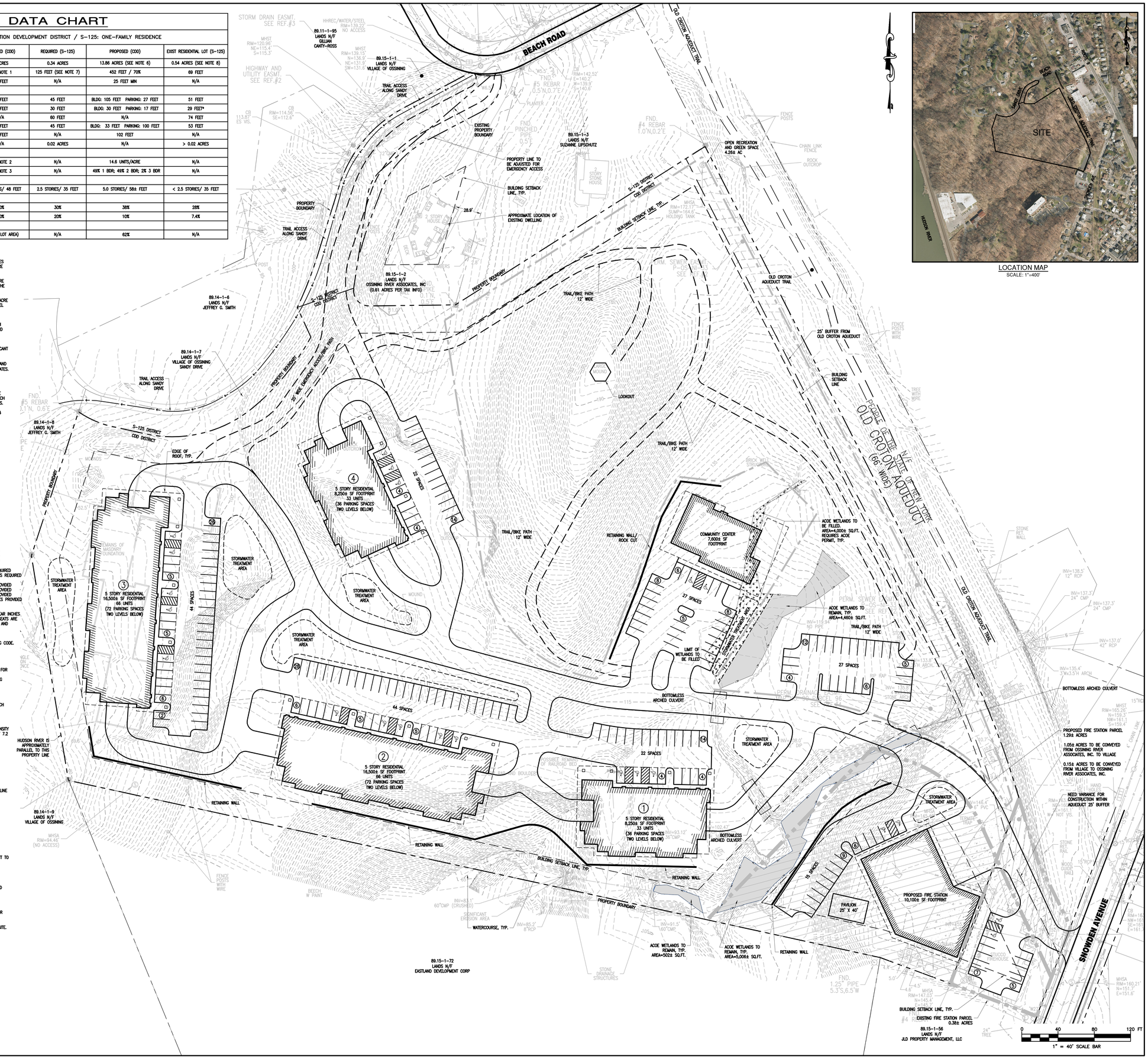
1. DENSITY BONUS INCENTIVES MAY BE GRANTED BY THE PLANNING BOARD FOR DEVELOPMENTS IN THE CDD DISTRICT IN EXCHANGE FOR AN APPLICANT PROVIDING VARIOUS AMENITIES. THE APPLICANT PROPOSES THE FOLLOWING AMENITIES:
   (A) PROVISION OF PUBLICLY ACCESSIBLE RIVERWALK
   (B) PROVISION OF PUBLIC OPEN SPACE
2. THE PLANNING BOARD SHALL GRANT A DENSITY BONUS OF 10% FOR EACH AMENITY OFFERED, PROVIDED THAT THE PLANNING BOARD FINDS THAT THE AMENITY IS PROPORTIONAL TO SUCH DENSITY BONUS. THEREFORE THE APPLICANT WOULD BE ELIGIBLE FOR A 20% DENSITY BONUS.
3. THE ALLOWED BASE DENSITY IS 6 UNITS PER ACRE. THEREFORE THE DENSITY BONUS IS 1.2 UNITS PER ACRE, YIELDING A TOTAL ALLOWED DENSITY OF 7.2 UNITS PER ACRE. THE PROPOSED DENSITY IS AS FOLLOWS:

   GROSS AREA = 13.86 ACRES
   WETLAND AREA = 0.32 ACRES
   DENSITY = 198/(13.86–0.32) = 14.6 UNITS/ACRE

CODE DEVIATION REQUIRED:

1. FOR TOTAL CUMULATIVE WIDTH OF BUILDING/WALLS MEASURED ALONG A LINE SUBSTANTIALLY PARALLEL TO THE HUDSON RIVER.
2. FOR CONSTRUCTION OF THE PROPOSED DRIVEWAY WITHIN THE 25 FEET CONSTRUCTION SETBACK FROM THE OLD CROTON AQUEDUCT.
3. FOR DENSITY AS INDICATED IN THE DENSITY BONUS PROVISIONS ABOVE.
4. FOR BUILDING HEIGHT.

ENVIRONMENTAL NOTES:
1. PER THE OPRHP WEBSITE THE SITE IS LOCATED IN AN ARCHAEOLOGICAL SENSITIVE ZONE. THERE ARE TWO (2) HISTORIC SITES LOCATED ADJACENT TO OR NEAR THE PROPERTY, AS FOLLOWS:
   a: OLD CROTON AQUEDUCT TRAIL (90NR02435)
   b: BRANDRETH PILL FACTORY (90NR02504) WEST OF PROJECT SITE
2. PER NEW YORK STATE DEPARTMENT OF STATE, OFFICE OF PLANNING & DEVELOPMENT WEBSITE THE WHOLE PROJECT SITE IS WITHIN A LANDWARD COASTAL BOUNDARY (I.E., COASTAL ZONE).
3. FEDERAL REGULATED WETLANDS EXIST ON SITE.
4. NO MAPPED STATE REGULATED WETLANDS OR STREAMS WERE FOUND FOR THE PROJECT SITE PER NYSDEC ENVIRONMENTAL RESOURCE MAPPER.
5. THERE IS A BALD EAGLE'S NEST LOCATED ADJACENT TO THE PROJECT SITE. LOCATION TO BE DETERMINED.



LOCATION MAP
SCALE: 1"=400'

SNOWDEN WOODS

SNOWDEN AVENUE
OSSINING, NY

OSSINING RIVER ASSOCIATES, INC

51 ROUTE 100
BRIARCLIFF MANOR
NEW YORK 10510

Bergmann associates
architects // engineers // planners

10B Madison Avenue Extension
Albany, New York 12203

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REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D
1	11/16/16	REV. COMM. CTR.	SH	GU

CONCEPT PLAN
198 UNITS

Project Manager: G. URSPRUNG, PE
Designed by: S. HARRISON
Drawn by: S. HARRISON
Checked by: G.URSPRUNG, PE
Date Issued: OCTOBER 24, 2016
Scale: 1" = 40'
Date
Project Number: 10161.00
File Name: CP104.DWG
Drawing Number: CP104
1 of 1

Appendix B

Turning Movement Count Data

November 2016

Bergmann associates

Snowden Avenue @
Highland Avenue (U.S. Route 9)

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Bergmann Associates

Snowden Woods Traffic Impact Study
N Highland Ave (Rte 9) at Snowden Avenue
Tuesday, November 29, 2016
7:00 - 9:00 AM and 2:00 - 6:00 PM

File Name : N Highland Ave (Route 9) at Snowden Ave
Site Code : 00000002
Start Date : 11/29/2016
Page No : 1

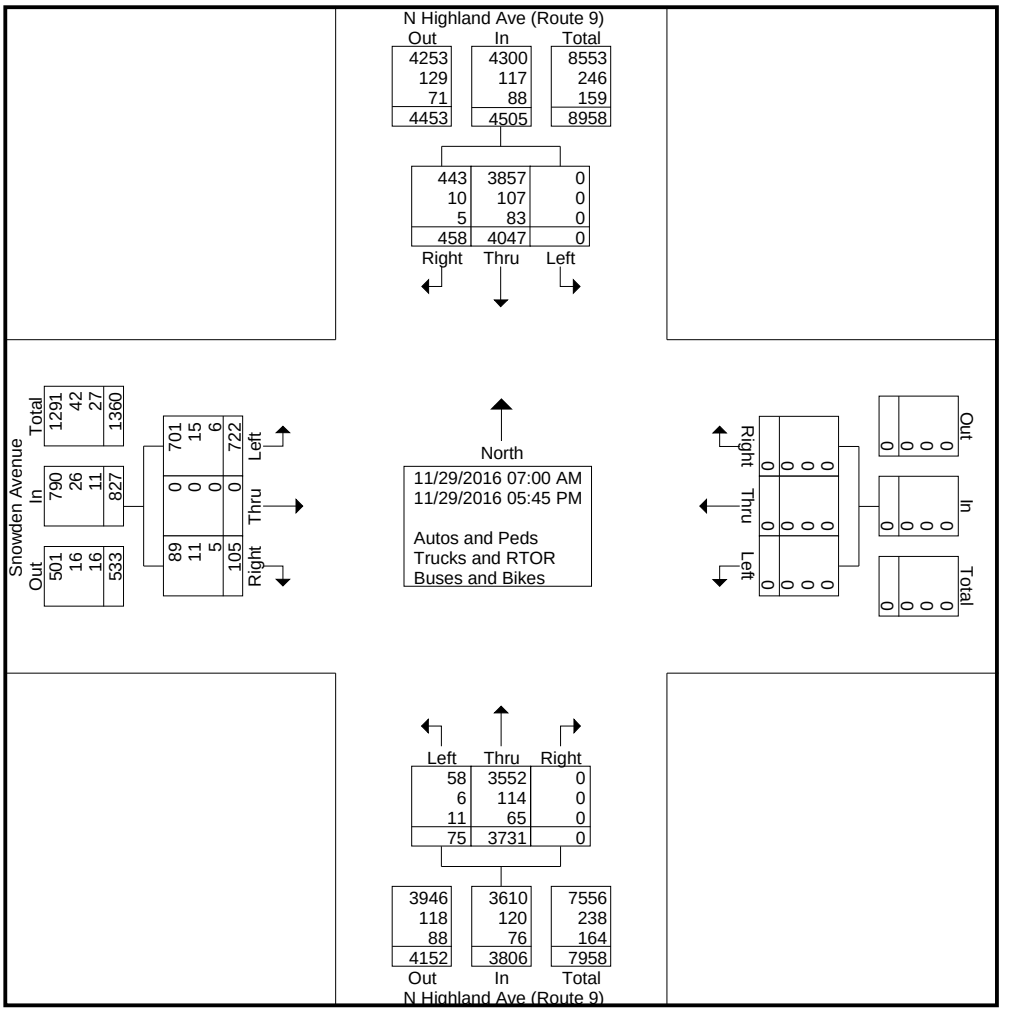
Groups Printed- Autos and Peds - Trucks and RTOR - Buses and Bikes

	Snowden Avenue Eastbound					Westbound					N Highland Ave (Route 9) Northbound					N Highland Ave (Route 9) Southbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	14	0	3	2	17	0	0	0	0	0	3	119	0	1	122	0	211	38	0	249	3	388	391
07:15 AM	24	0	4	0	28	0	0	0	0	0	3	121	0	0	124	0	242	41	1	283	1	435	436
07:30 AM	42	0	10	3	52	0	0	0	0	0	2	126	0	0	128	0	228	46	3	274	6	454	460
07:45 AM	39	0	11	1	50	0	0	0	0	0	3	145	0	0	148	0	214	23	0	237	1	435	436
Total	119	0	28	6	147	0	0	0	0	0	11	511	0	1	522	0	895	148	4	1043	11	1712	1723
08:00 AM	29	0	3	0	32	0	0	0	0	0	4	118	0	1	122	0	239	36	3	275	4	429	433
08:15 AM	20	0	3	2	23	0	0	0	0	0	9	89	0	0	98	0	214	20	0	234	2	355	357
08:30 AM	22	0	5	1	27	0	0	0	0	0	4	109	0	0	113	0	210	13	0	223	1	363	364
08:45 AM	20	0	5	2	25	0	0	0	0	0	1	143	0	0	144	0	209	27	3	236	5	405	410
Total	91	0	16	5	107	0	0	0	0	0	18	459	0	1	477	0	872	96	6	968	12	1552	1564
*** BREAK ***																							
02:00 PM	18	0	0	2	18	0	0	0	0	0	2	159	0	0	161	0	105	9	0	114	2	293	295
02:15 PM	17	0	1	1	18	0	0	0	0	0	0	129	0	1	129	0	133	7	0	140	2	287	289
02:30 PM	15	0	1	2	16	0	0	0	0	0	2	171	0	0	173	0	139	10	1	149	3	338	341
02:45 PM	17	0	3	7	20	0	0	0	0	0	4	179	0	0	183	0	147	14	2	161	9	364	373
Total	67	0	5	12	72	0	0	0	0	0	8	638	0	1	646	0	524	40	3	564	16	1282	1298
03:00 PM	33	0	4	1	37	0	0	0	0	0	4	188	0	0	192	0	146	13	2	159	3	388	391
03:15 PM	29	0	2	0	31	0	0	0	0	0	5	177	0	0	182	0	133	16	1	149	1	362	363
03:30 PM	40	0	5	0	45	0	0	0	0	0	9	171	0	0	180	0	134	8	2	142	2	367	369
03:45 PM	32	0	7	2	39	0	0	0	0	0	2	154	0	0	156	0	130	13	1	143	3	338	341
Total	134	0	18	3	152	0	0	0	0	0	20	690	0	0	710	0	543	50	6	593	9	1455	1464
04:00 PM	36	0	5	4	41	0	0	0	0	0	2	182	0	0	184	0	157	12	3	169	7	394	401
04:15 PM	35	0	4	1	39	0	0	0	0	0	3	201	0	0	204	0	148	15	1	163	2	406	408
04:30 PM	48	0	5	0	53	0	0	0	0	0	3	176	0	0	179	0	156	12	1	168	1	400	401
04:45 PM	43	0	5	1	48	0	0	0	0	0	0	175	0	1	175	0	147	25	2	172	4	395	399
Total	162	0	19	6	181	0	0	0	0	0	8	734	0	1	742	0	608	64	7	672	14	1595	1609
05:00 PM	45	0	8	2	53	0	0	0	0	0	4	147	0	0	151	0	140	15	1	155	3	359	362
05:15 PM	41	0	1	7	42	0	0	0	0	0	2	194	0	3	196	0	165	20	1	185	11	423	434
05:30 PM	25	0	6	1	31	0	0	0	0	0	3	180	0	0	183	0	148	11	0	159	1	373	374
05:45 PM	38	0	4	0	42	0	0	0	0	0	1	178	0	0	179	0	152	14	0	166	0	387	387
Total	149	0	19	10	168	0	0	0	0	0	10	699	0	3	709	0	605	60	2	665	15	1542	1557
Grand Total	722	0	105	42	827	0	0	0	0	0	75	3731	0	7	3806	0	4047	458	28	4505	77	9138	9215
Apprch %	87.3	0	12.7			0	0	0			2	98	0			0	89.8	10.2					
Total %	7.9	0	1.1		9.1	0	0	0		0	0.8	40.8	0		41.7	0	44.3	5		49.3	0.8	99.2	
Autos and Peds	701	0	89		816	0	0	0		0	58	3552	0		3617	0	3857	443		4300	0	0	8733
% Autos and Peds	97.1	0	84.8	61.9	93.9	0	0	0	0	0	77.3	95.2	0	100	94.9	0	95.3	96.7	0	94.9	0	0	94.8
Trucks and RTOR	15	0	11		42	0	0	0		0	6	114	0		120	0	107	10		145	0	0	307
% Trucks and RTOR	2.1	0	10.5	38.1	4.8	0	0	0	0	0	8	3.1	0	0	3.1	0	2.6	2.2	100	3.2	0	0	3.3
Buses and Bikes	6	0	5		11	0	0	0		0	11	65	0		76	0	83	5		88	0	0	175
% Buses and Bikes	0.8	0	4.8	0	1.3	0	0	0	0	0	14.7	1.7	0	0	2	0	2.1	1.1	0	1.9	0	0	1.9

Bergmann Associates

Snowden Woods Traffic Impact Study
N Highland Ave (Rte 9) at Snowden Avenue
Tuesday, November 29, 2016
7:00 - 9:00 AM and 2:00 - 6:00 PM

File Name : N Highland Ave (Route 9) at Snowden Ave
Site Code : 00000002
Start Date : 11/29/2016
Page No : 2

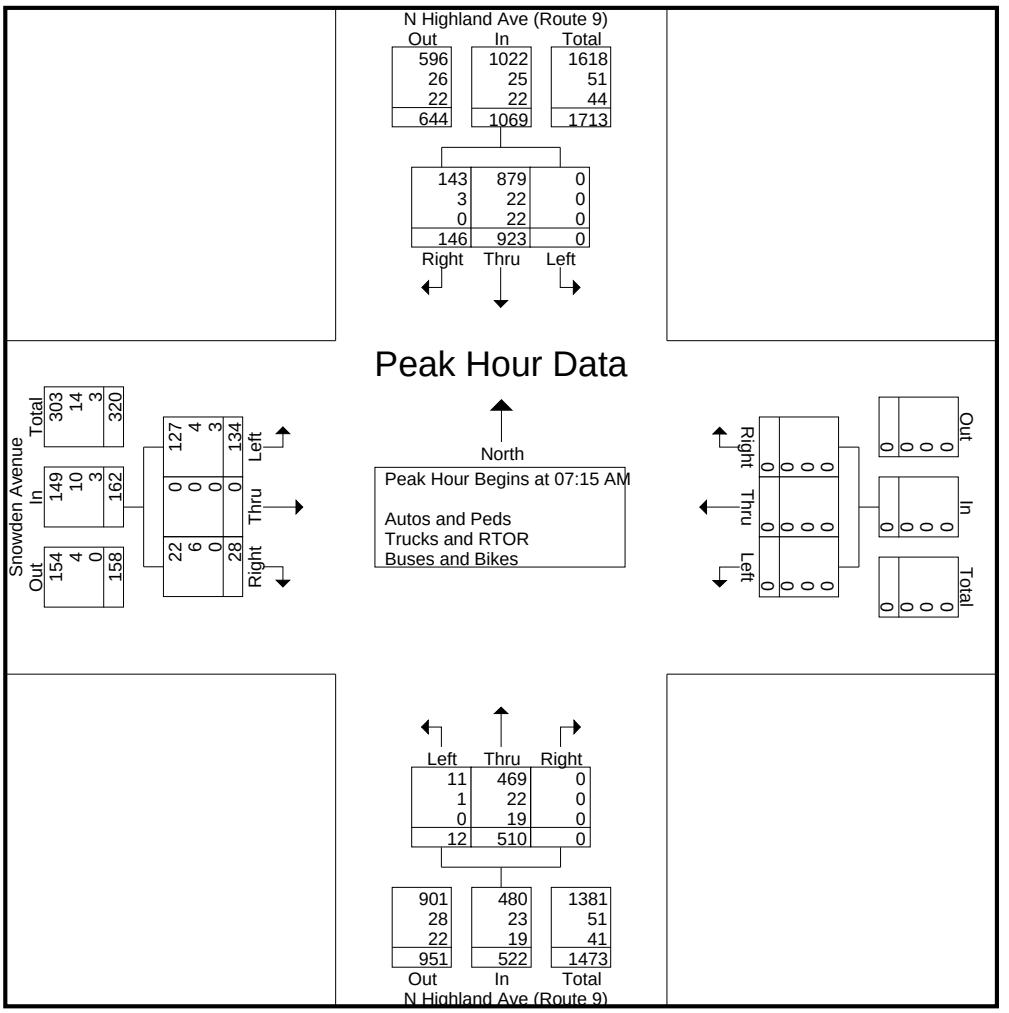


Bergmann Associates

Snowden Woods Traffic Impact Study
N Highland Ave (Rte 9) at Snowden Avenue
Tuesday, November 29, 2016
7:00 - 9:00 AM and 2:00 - 6:00 PM

File Name : N Highland Ave (Route 9) at Snowden Ave
Site Code : 00000002
Start Date : 11/29/2016
Page No : 3

	Snowden Avenue Eastbound				Westbound				N Highland Ave (Route 9) Northbound				N Highland Ave (Route 9) Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	24	0	4	28	0	0	0	0	3	121	0	124	0	**242**	41	**283**	435
07:30 AM	**42**	0	10	**52**	0	0	0	0	2	126	0	128	0	228	**46**	274	**454**
07:45 AM	39	0	**11**	50	0	0	0	0	3	**145**	0	**148**	0	214	23	237	435
08:00 AM	29	0	3	32	0	0	0	0	**4**	118	0	122	0	239	36	275	429
Total Volume	134	0	28	162	0	0	0	0	12	510	0	522	0	923	146	1069	1753
% App. Total	82.7	0	17.3		0	0	0		2.3	97.7	0		0	86.3	13.7		
PHF	.798	.000	.636	.779	.000	.000	.000	.000	.750	.879	.000	.882	.000	.954	.793	.944	.965
Autos and Peds	127	0	22	149	0	0	0	0	11	469	0	480	0	879	143	1022	1651
% Autos and Peds	94.8	0	78.6	92.0	0	0	0	0	91.7	92.0	0	92.0	0	95.2	97.9	95.6	94.2
Trucks and RTOR	4	0	6	10	0	0	0	0	1	22	0	23	0	22	3	25	58
% Trucks and RTOR	3.0	0	21.4	6.2	0	0	0	0	8.3	4.3	0	4.4	0	2.4	2.1	2.3	3.3
Buses and Bikes	3	0	0	3	0	0	0	0	0	19	0	19	0	22	0	22	44
% Buses and Bikes	2.2	0	0	1.9	0	0	0	0	0	3.7	0	3.6	0	2.4	0	2.1	2.5

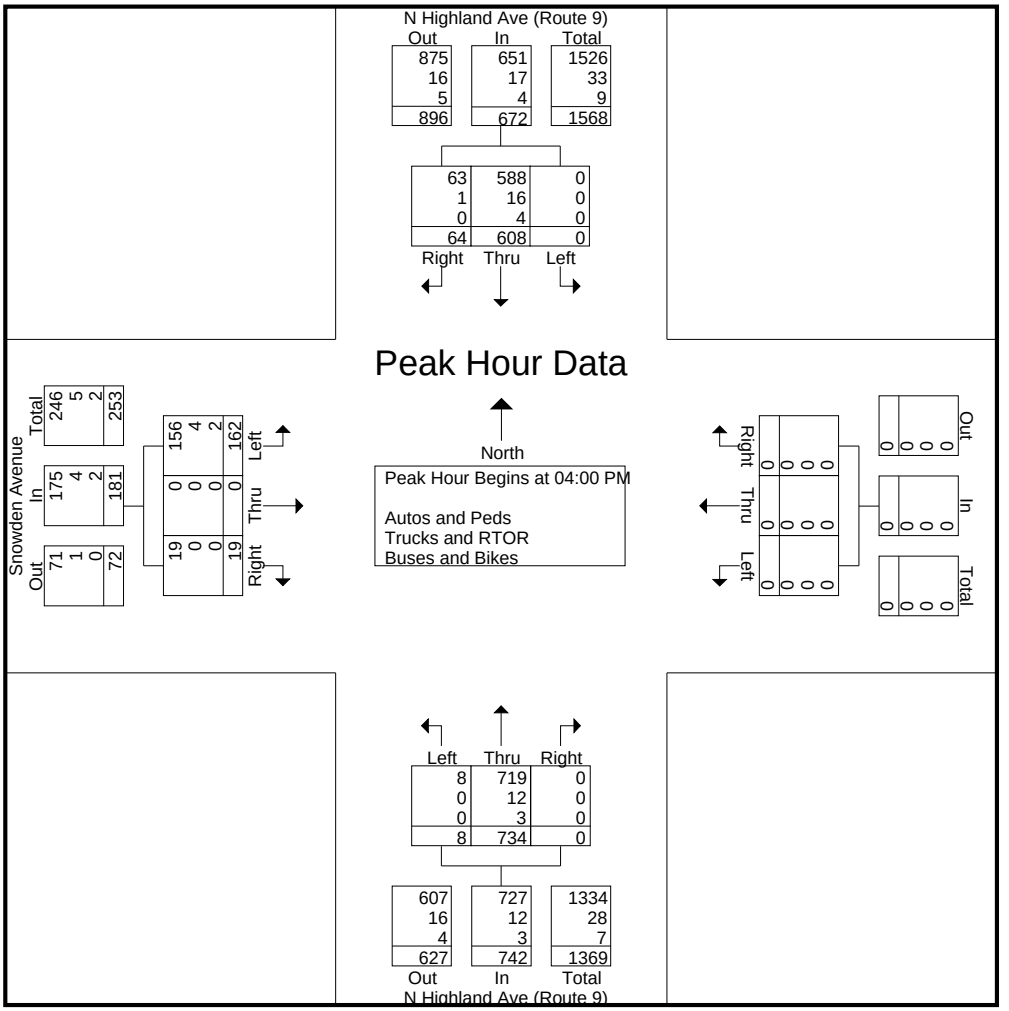


Bergmann Associates

Snowden Woods Traffic Impact Study
N Highland Ave (Rte 9) at Snowden Avenue
Tuesday, November 29, 2016
7:00 - 9:00 AM and 2:00 - 6:00 PM

File Name : N Highland Ave (Route 9) at Snowden Ave
Site Code : 00000002
Start Date : 11/29/2016
Page No : 4

	Snowden Avenue Eastbound				Westbound				N Highland Ave (Route 9) Northbound				N Highland Ave (Route 9) Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	36	0	**5**	41	0	0	0	0	2	182	0	184	0	**157**	12	169	394
04:15 PM	35	0	4	39	0	0	0	0	**3**	**201**	0	**204**	0	148	15	163	**406**
04:30 PM	**48**	0	5	**53**	0	0	0	0	3	176	0	179	0	156	12	168	400
04:45 PM	43	0	5	48	0	0	0	0	0	175	0	175	0	147	**25**	**172**	395
Total Volume	162	0	19	181	0	0	0	0	8	734	0	742	0	608	64	672	1595
% App. Total	89.5	0	10.5		0	0	0		1.1	98.9	0		0	90.5	9.5		
PHF	.844	.000	.950	.854	.000	.000	.000	.000	.667	.913	.000	.909	.000	.968	.640	.977	.982
Autos and Peds	156	0	19	175	0	0	0	0	8	719	0	727	0	588	63	651	1553
% Autos and Peds	96.3	0	100	96.7	0	0	0	0	100	98.0	0	98.0	0	96.7	98.4	96.9	97.4
Trucks and RTOR	4	0	0	4	0	0	0	0	0	12	0	12	0	16	1	17	33
% Trucks and RTOR	2.5	0	0	2.2	0	0	0	0	0	1.6	0	1.6	0	2.6	1.6	2.5	2.1
Buses and Bikes	2	0	0	2	0	0	0	0	0	3	0	3	0	4	0	4	9
% Buses and Bikes	1.2	0	0	1.1	0	0	0	0	0	0.4	0	0.4	0	0.7	0	0.6	0.6



Snowden Avenue @

Existing Fire Station driveway

Bergmann associates

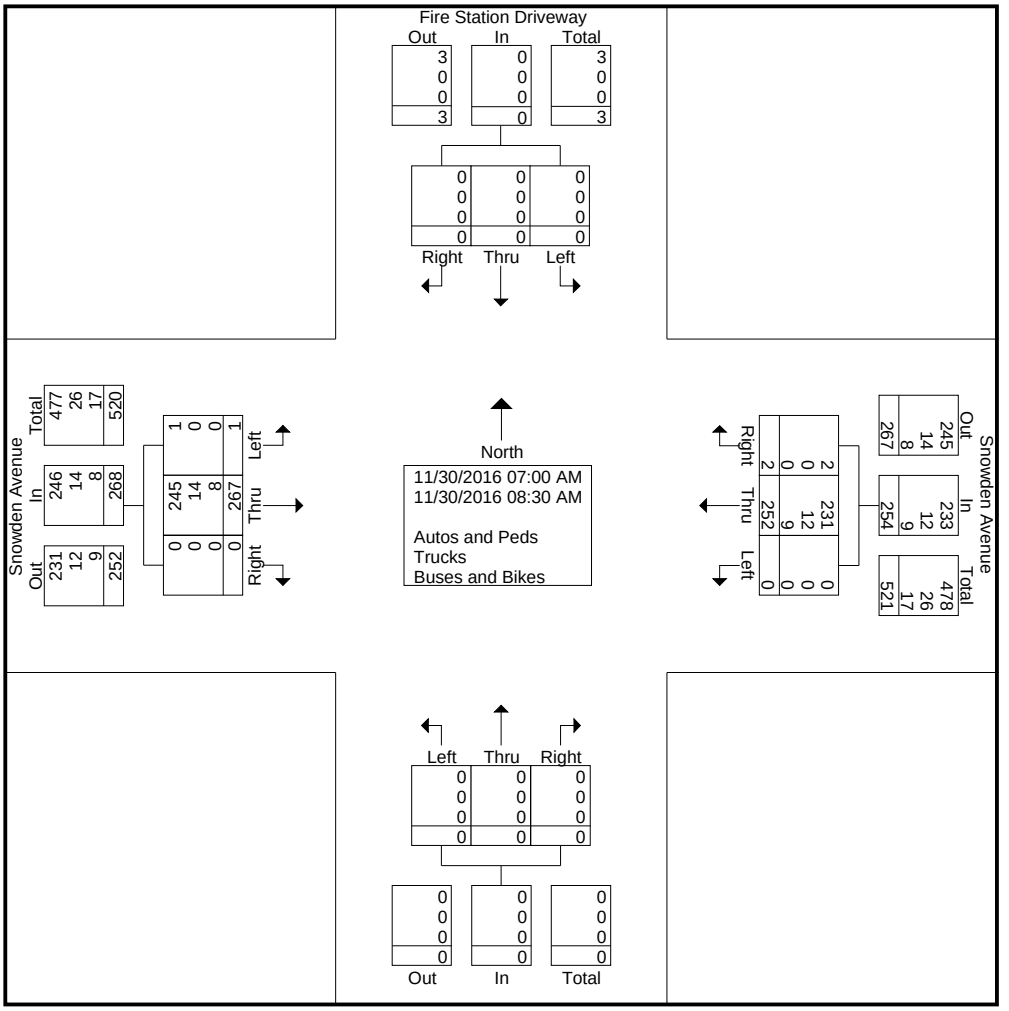
Bergmann Associates

Snowden Woods Traffic Impact Study
Snowden Avenue at Fire Station Driveway
Wednesday, November 30, 2016
7:00 - 8:45 AM

File Name : Snowden Ave at Fire Station Driveway_AM
Site Code : 00000003
Start Date : 11/30/2016
Page No : 1

Groups Printed- Autos and Peds - Trucks - Buses and Bikes

	Snowden Avenue Eastbound					Snowden Avenue Westbound					Northbound					Fire Station Driveway Southbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	26	0	1	26	0	48	0	0	48	0	0	0	0	0	0	0	0	0	0	1	74	75
07:15 AM	0	44	0	0	44	0	43	0	0	43	0	0	0	0	0	0	0	0	0	0	0	87	87
07:30 AM	0	63	0	1	63	0	44	0	0	44	0	0	0	0	0	0	0	0	0	0	1	107	108
07:45 AM	0	52	0	0	52	0	33	0	0	33	0	0	0	0	0	0	0	0	0	0	0	85	85
Total	0	185	0	2	185	0	168	0	0	168	0	0	0	0	0	0	0	0	0	0	2	353	355
08:00 AM	0	25	0	0	25	0	41	0	0	41	0	0	0	0	0	0	0	0	0	0	0	66	66
08:15 AM	0	28	0	0	28	0	24	1	0	25	0	0	0	0	0	0	0	0	0	0	0	53	53
08:30 AM	1	29	0	1	30	0	19	1	0	20	0	0	0	0	0	0	0	0	0	0	1	50	51
Grand Total	1	267	0	3	268	0	252	2	0	254	0	0	0	0	0	0	0	0	0	0	3	522	525
Apprch %	0.4	99.6	0			0	99.2	0.8			0	0	0			0	0	0					
Total %	0.2	51.1	0		51.3	0	48.3	0.4		48.7	0	0	0		0	0	0	0		0	0.6	99.4	
Autos and Peds	1	245	0		249	0	231	2		233	0	0	0		0	0	0	0		0	0	0	482
% Autos and Peds	100	91.8	0	100	91.9	0	91.7	100	0	91.7	0	0	0	0	0	0	0	0	0	0	0	0	91.8
Trucks	0	14	0		14	0	12	0		12	0	0	0		0	0	0	0		0	0	0	26
% Trucks	0	5.2	0	0	5.2	0	4.8	0	0	4.7	0	0	0	0	0	0	0	0	0	0	0	0	5
Buses and Bikes	0	8	0		8	0	9	0		9	0	0	0		0	0	0	0		0	0	0	17
% Buses and Bikes	0	3	0	0	3	0	3.6	0	0	3.5	0	0	0	0	0	0	0	0	0	0	0	0	3.2

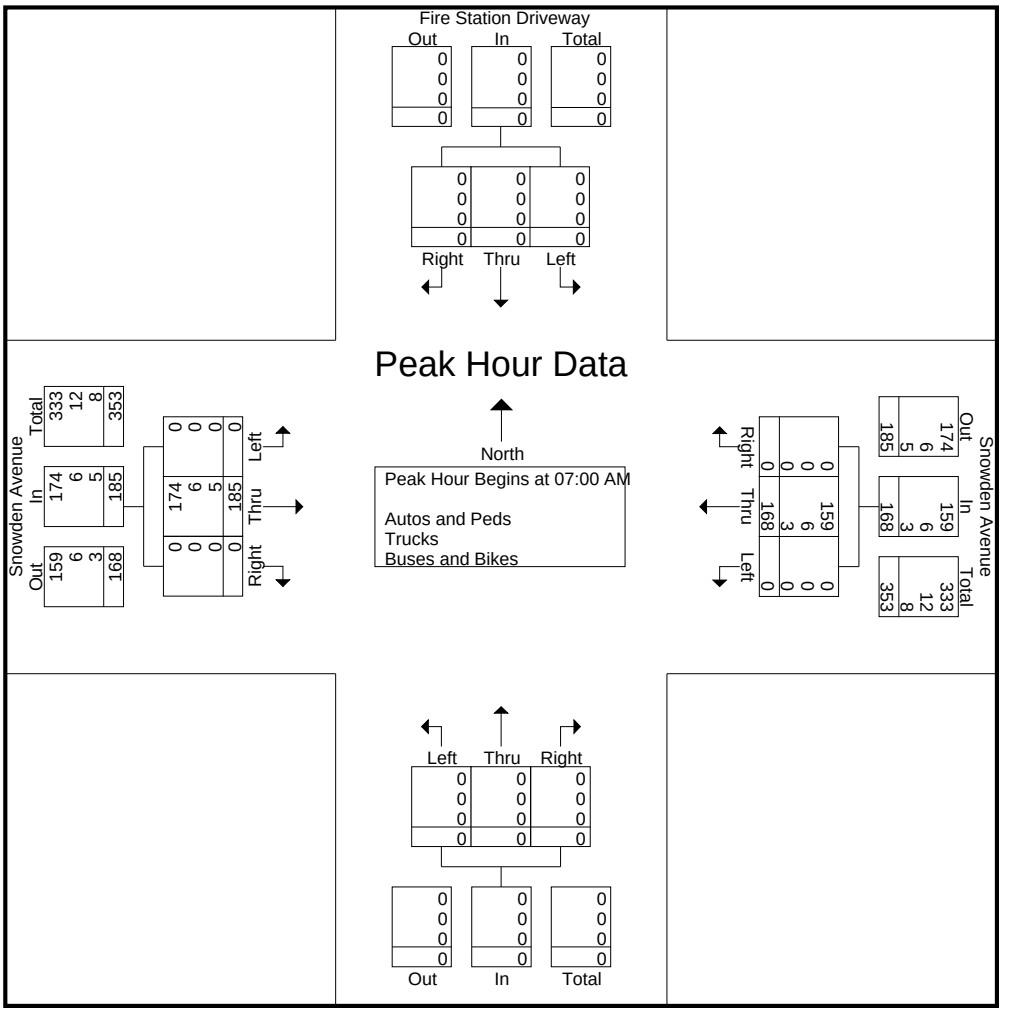


Bergmann Associates

Snowden Woods Traffic Impact Study
Snowden Avenue at Fire Station Driveway
Wednesday, November 30, 2016
7:00 - 8:45 AM

File Name : Snowden Ave at Fire Station Driveway_AM
Site Code : 00000003
Start Date : 11/30/2016
Page No : 2

	Snowden Avenue Eastbound				Snowden Avenue Westbound				Northbound				Fire Station Driveway Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	26	0	26	0	**48**	0	**48**	0	0	0	0	0	0	0	0	74
07:15 AM	0	44	0	44	0	43	0	43	0	0	0	0	0	0	0	0	87
07:30 AM	0	**63**	0	**63**	0	44	0	44	0	0	0	0	0	0	0	0	**107**
07:45 AM	0	52	0	52	0	33	0	33	0	0	0	0	0	0	0	0	85
Total Volume	0	185	0	185	0	168	0	168	0	0	0	0	0	0	0	0	353
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.734	.000	.734	.000	.875	.000	.875	.000	.000	.000	.000	.000	.000	.000	.000	.825
Autos and Peds	0	174	0	174	0	159	0	159	0	0	0	0	0	0	0	0	333
% Autos and Peds	0	94.1	0	94.1	0	94.6	0	94.6	0	0	0	0	0	0	0	0	94.3
Trucks	0	6	0	6	0	6	0	6	0	0	0	0	0	0	0	0	12
% Trucks	0	3.2	0	3.2	0	3.6	0	3.6	0	0	0	0	0	0	0	0	3.4
Buses and Bikes	0	5	0	5	0	3	0	3	0	0	0	0	0	0	0	0	8
% Buses and Bikes	0	2.7	0	2.7	0	1.8	0	1.8	0	0	0	0	0	0	0	0	2.3



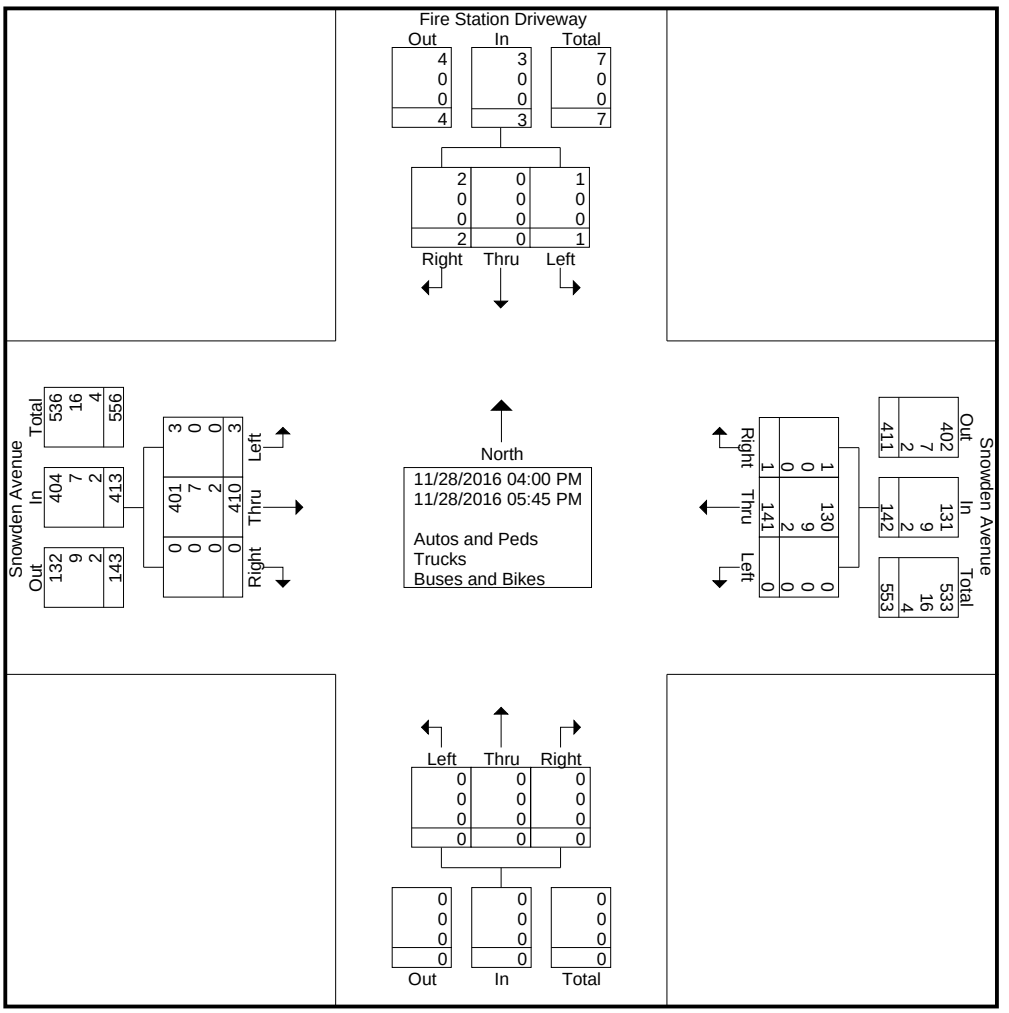
Bergmann Associates

Snowden Woods Traffic Impact Study
Snowden Avenue at Fire Station Driveway
Monday, November 28, 2016
4:00 - 6:00 PM

File Name : Snowden Ave at Fire Station Driveway_PM
Site Code : 00000001
Start Date : 11/28/2016
Page No : 1

Groups Printed- Autos and Peds - Trucks - Buses and Bikes

	Snowden Avenue Eastbound					Snowden Avenue Westbound					Northbound					Fire Station Driveway Southbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	40	0	1	40	0	18	0	0	18	0	0	0	0	0	0	0	0	0	0	1	58	59
04:15 PM	0	45	0	0	45	0	16	0	0	16	0	0	0	0	0	0	0	0	2	0	2	61	63
04:30 PM	0	51	0	0	51	0	14	0	0	14	0	0	0	0	0	0	0	0	0	0	0	65	65
04:45 PM	0	48	0	1	48	0	17	0	0	17	0	0	0	0	0	0	0	0	0	0	1	65	66
Total	0	184	0	2	184	0	65	0	0	65	0	0	0	0	0	0	0	0	2	0	4	249	253
05:00 PM	1	63	0	2	64	0	27	0	2	27	0	0	0	0	0	0	0	1	0	1	4	92	96
05:15 PM	0	53	0	0	53	0	14	0	0	14	0	0	0	0	0	0	0	0	0	0	0	67	67
05:30 PM	1	65	0	0	66	0	16	1	0	17	0	0	0	0	0	1	0	1	2	2	2	85	87
05:45 PM	1	45	0	0	46	0	19	0	0	19	0	0	0	0	0	0	0	0	1	0	1	65	66
Total	3	226	0	2	229	0	76	1	2	77	0	0	0	0	0	1	0	2	3	3	7	309	316
Grand Total	3	410	0	4	413	0	141	1	2	142	0	0	0	0	0	1	0	2	5	3	11	558	569
Apprch %	0.7	99.3	0			0	99.3	0.7			0	0	0			33.3	0	66.7					
Total %	0.5	73.5	0		74	0	25.3	0.2		25.4	0	0	0		0	0.2	0	0.4		0.5	1.9	98.1	
Autos and Peds	3	401	0		408	0	130	1		133	0	0	0		0	1	0	2		8	0	0	549
% Autos and Peds	100	97.8	0	100	97.8	0	92.2	100	100	92.4	0	0	0	0	0	100	0	100	100	100	0	0	96.5
Trucks	0	7	0		7	0	9	0		9	0	0	0		0	0	0	0		0	0	0	16
% Trucks	0	1.7	0	0	1.7	0	6.4	0	0	6.2	0	0	0	0	0	0	0	0	0	0	0	0	2.8
Buses and Bikes	0	2	0		2	0	2	0		2	0	0	0		0	0	0	0		0	0	0	4
% Buses and Bikes	0	0.5	0	0	0.5	0	1.4	0	0	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0.7

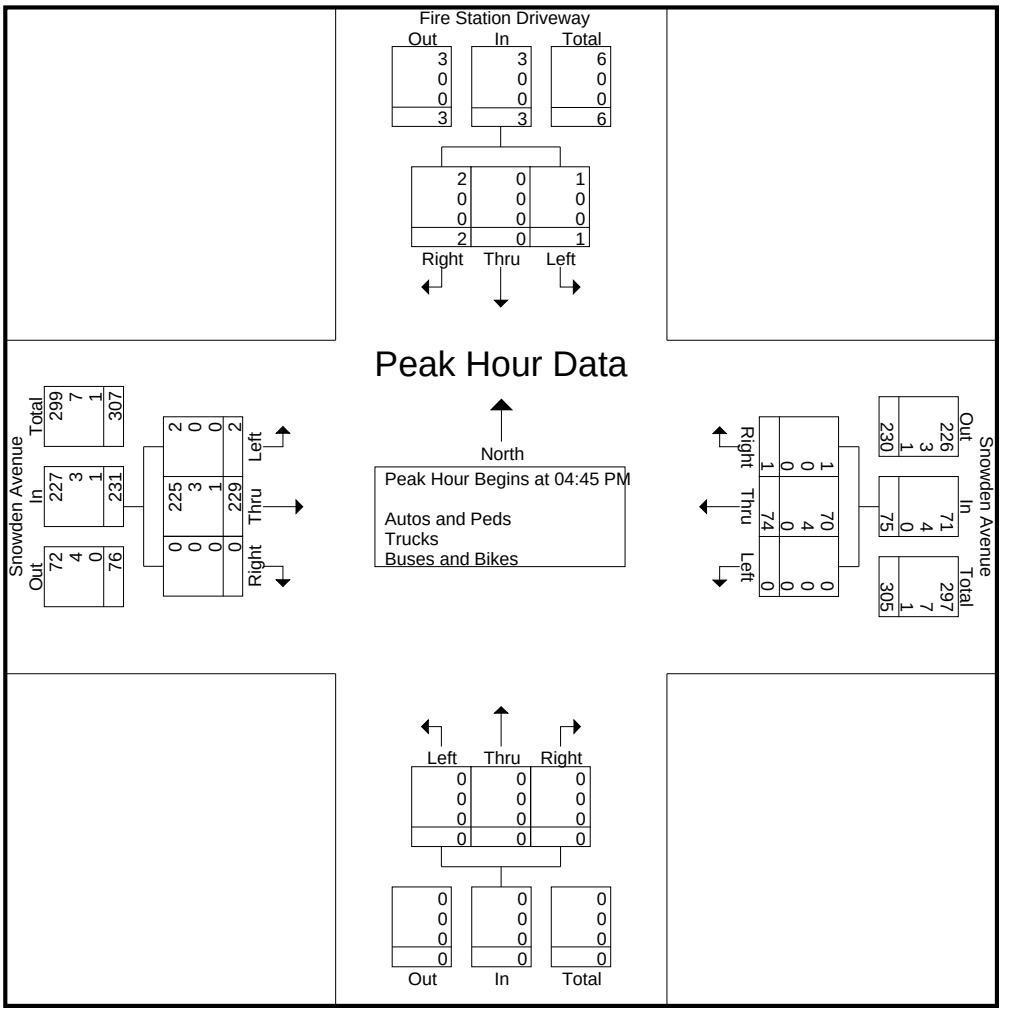


Bergmann Associates

Snowden Woods Traffic Impact Study
Snowden Avenue at Fire Station Driveway
Monday, November 28, 2016
4:00 - 6:00 PM

File Name : Snowden Ave at Fire Station Driveway_PM
Site Code : 00000001
Start Date : 11/28/2016
Page No : 2

	Snowden Avenue Eastbound				Snowden Avenue Westbound				Northbound				Fire Station Driveway Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	48	0	48	0	17	0	17	0	0	0	0	0	0	0	0	65
05:00 PM	**1**	63	0	64	0	**27**	0	**27**	0	0	0	0	0	0	**1**	1	**92**
05:15 PM	0	53	0	53	0	14	0	14	0	0	0	0	0	0	0	0	67
05:30 PM	1	**65**	0	**66**	0	16	**1**	17	0	0	0	0	**1**	0	1	**2**	85
Total Volume	2	229	0	231	0	74	1	75	0	0	0	0	1	0	2	3	309
% App. Total	0.9	99.1	0		0	98.7	1.3		0	0	0		33.3	0	66.7		
PHF	.500	.881	.000	.875	.000	.685	.250	.694	.000	.000	.000	.000	.250	.000	.500	.375	.840
Autos and Peds	2	225	0	227	0	70	1	71	0	0	0	0	1	0	2	3	301
% Autos and Peds	100	98.3	0	98.3	0	94.6	100	94.7	0	0	0	0	100	0	100	100	97.4
Trucks	0	3	0	3	0	4	0	4	0	0	0	0	0	0	0	0	7
% Trucks	0	1.3	0	1.3	0	5.4	0	5.3	0	0	0	0	0	0	0	0	2.3
Buses and Bikes	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Buses and Bikes	0	0.4	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0.3



Appendix C

Intersection Turning Movement Diagrams

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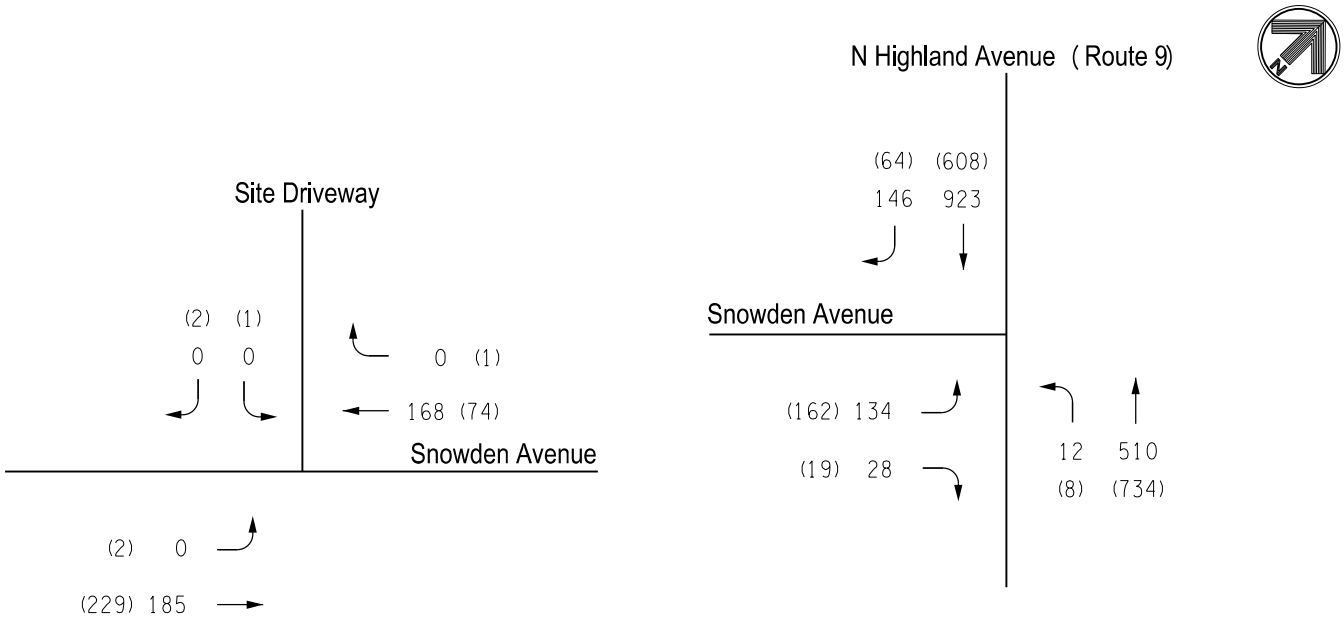


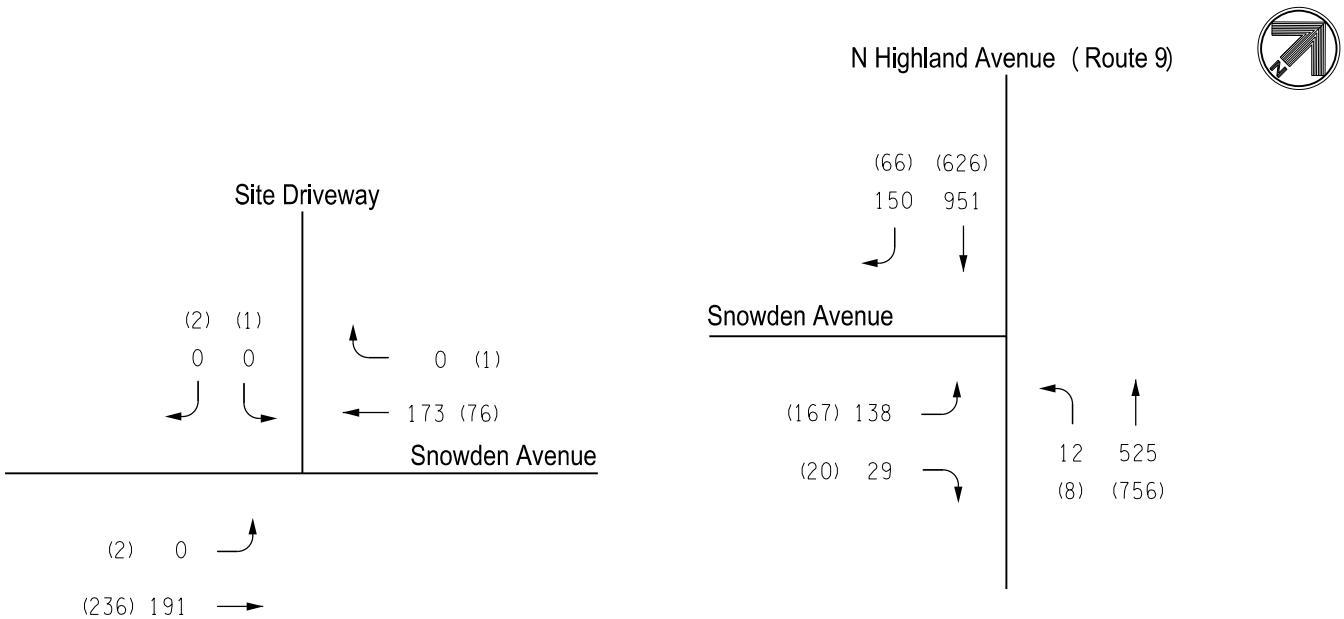
LEGEND:

XXX - Weekday AM Peak Hour Traffic
(XXX) - Weekday PM Peak Hour Traffic

Snowden Woods Traffic Impact Study
Village of Ossining

2016 Existing
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE	
C1	No Scale	01/17	Bergmann associates



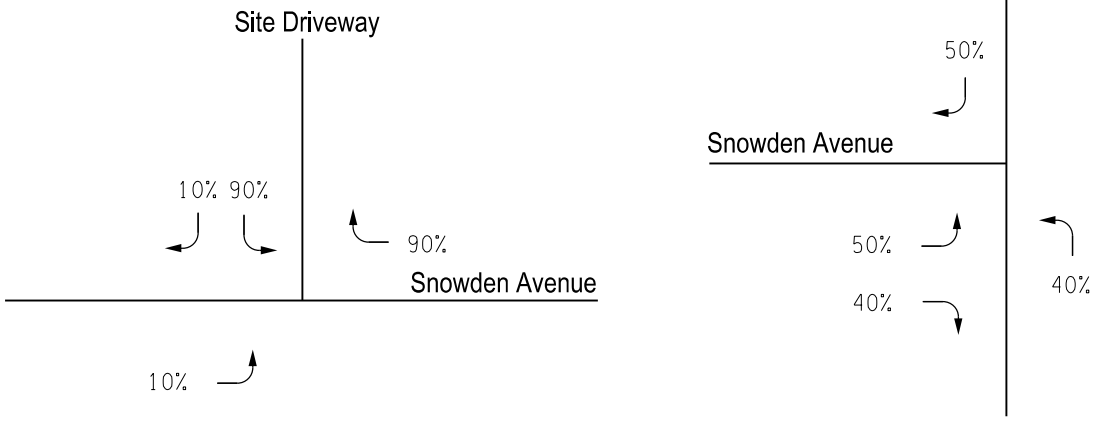
LEGEND:

XXX - Weekday AM Peak Hour Traffic
(XXX) - Weekday PM Peak Hour Traffic

Snowden Woods Traffic Impact Study
Village of Ossining

2019 No Build
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE	
C2	No Scale	01/17	Bergmann associates



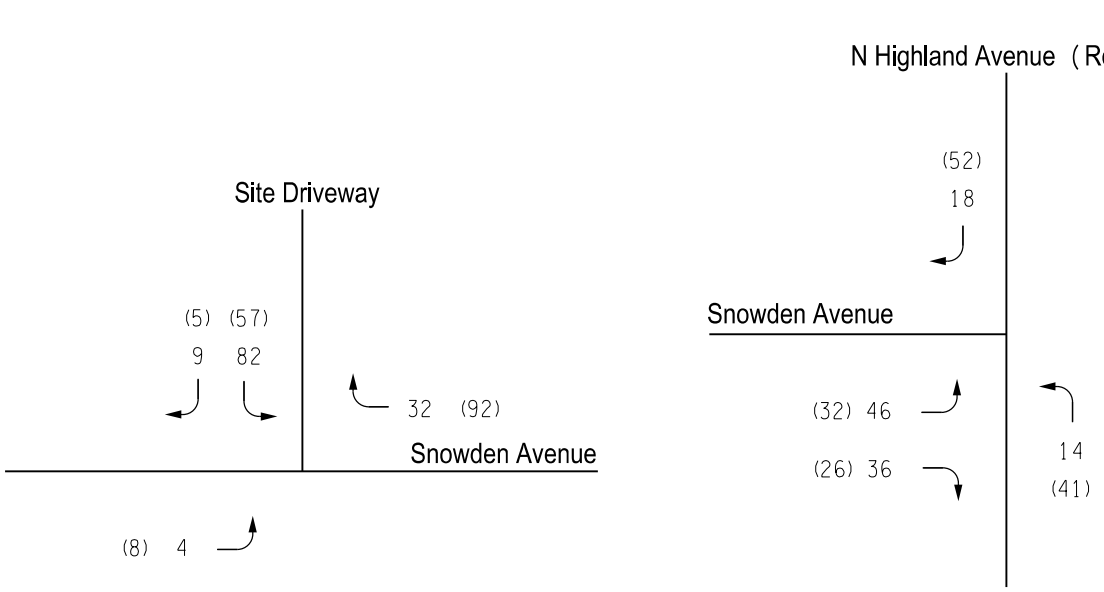
LEGEND:

XXX - Weekday AM Peak Hour Traffic
(XXX) - Weekday PM Peak Hour Traffic

Snowden Woods Traffic Impact Study
Village of Ossining

Trip Distribution (Percentages)
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE	
C3	No Scale	01/17	Bergmann associates



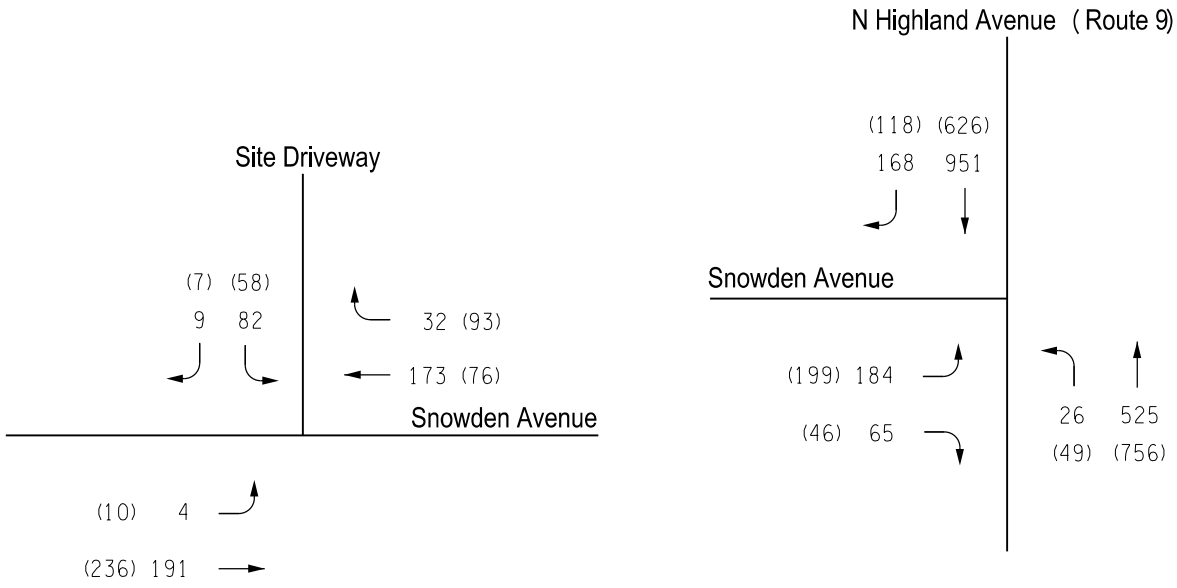
LEGEND:

XXX - Weekday AM Peak Hour Traffic
(XXX) - Weekday PM Peak Hour Traffic

Snowden Woods Traffic Impact Study
Village of Ossining

Trip Assignment
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE	
C4	No Scale	01/17	Bergmann associates



LEGEND:

XXX - Weekday AM Peak Hour Traffic
(XXX) - Weekday PM Peak Hour Traffic

Snowden Woods Traffic Impact Study
Village of Ossining

2019 Full Build
Peak Hour Turning Movements

FIGURE NO.	SCALE	DATE	
C5	No Scale	01/17	Bergmann associates

Appendix D

Detailed Level of Service Analysis Results

2016 Existing Conditions

Bergmann associates

DEFINITION OF LEVEL OF SERVICE FOR

SIGNALIZED INTERSECTIONS

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents and when there are no other vehicles on the road. Only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay.* Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. The criteria are given in the following table. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group in question.

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (sec)
A	Less than or equal to 10.0
B	Greater than 10.0 to no more than 20.0
C	Greater than 20.0 to no more than 35.0
D	Greater than 35.0 to no more than 55.0
E	Greater than 55.0 to no more than 80.0
F	Greater than 80.0

Level of Service A describes operations with very low control delay, up to 10 seconds per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

Level of Service B describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.

Level of Service C describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

Level of Service D describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

Level of Service E describes operations with control delay greater than 55 and up to 80 seconds per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

Level of Service F describes operations with control delay in excess of 80 seconds per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

DEFINITION OF LEVEL OF SERVICE FOR

UNSIGNALIZED INTERSECTIONS

The level of service for a Two-Way-Stop-Control (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. LOS criteria are given in the accompanying table.

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (sec)
A	Less than or equal to 10.0
B	Greater than 10.0 to no more than 15.0
C	Greater than 15.0 to no more than 25.0
D	Greater than 25.0 to no more than 35.0
E	Greater than 35.0 to no more than 50.0
F	Greater than 50.0

The LOS criteria for TWSC intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection would be designed to carry higher traffic volumes than an unsignalized intersection. In addition, a number of driver behavior considerations combine to make delays at signalized intersections less onerous than delays at unsignalized intersections. Also, there is often much more variability in the amount of delay experienced by individual drivers at an unsignalized intersection versus that at signalized intersections. For these reasons, it is considered that the control delay threshold for any given level of service would be less for an unsignalized intersection than it would be for a signalized intersection.

The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during conditions with ideal geometrics and in the absence of incidents, control and traffic. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

In the performance evaluation of TWSC intersections, it is important to consider other measures of effectiveness (MOE's) in addition to delay, such as v/c ratios for individual movements, average queue lengths, and 95th percentile queue lengths. By focusing on a single MOE for the worst movement only, such as delay for the minor-street left turn, inappropriate traffic control decisions may be made.

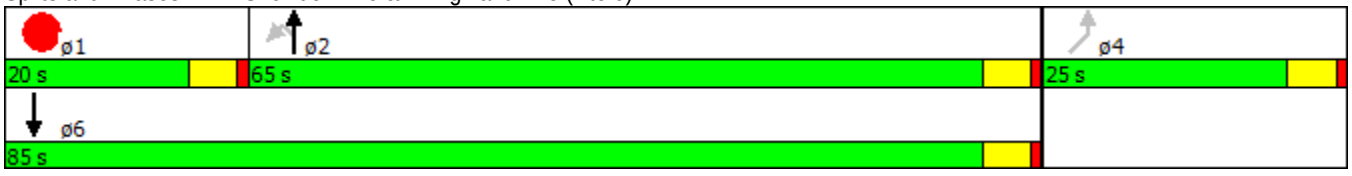
Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Lane Configurations							
Volume (vph)	12	510	923	146	134	28	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	11	11	13	13	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00	
Ped Bike Factor		1.00	1.00		1.00		
Frt			0.979		0.977		
Flt Protected		0.999			0.960		
Satd. Flow (prot)	0	3339	3253	0	1689	0	
Flt Permitted		0.924			0.960		
Satd. Flow (perm)	0	3088	3253	0	1689	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)			42		8		
Link Speed (mph)		30	30		30		
Link Distance (ft)		591	217		644		
Travel Time (s)		13.4	4.9		14.6		
Confl. Peds. (#/hr)	1			1		1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	9%	8%	5%	3%	6%	22%	
Adj. Flow (vph)	12	526	952	151	138	29	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	538	1103	0	167	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		13		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.04	1.04	0.96	0.96	
Turning Speed (mph)	15			15	15	9	
Number of Detectors	1	1	1		1		
Detector Template	Left	Thru	Thru		Left		
Leading Detector (ft)	20	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Detector 1 Position(ft)	0	0	0		0		
Detector 1 Size(ft)	20	50	50		50		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0		0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0		
Turn Type	Perm	NA	NA		Perm		
Protected Phases		2	6				1
Permitted Phases	2				4		
Detector Phase	2	2	6		4		
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0		7.0		7.0
Minimum Split (s)	12.0	12.0	12.0		12.0		12.0
Total Split (s)	65.0	65.0	85.0		25.0		20.0

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Total Split (%)	59.1%	59.1%	77.3%		22.7%		18%
Maximum Green (s)	60.0	60.0	80.0		20.0		15.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0
Lost Time Adjust (s)		0.0	0.0		0.0		
Total Lost Time (s)		5.0	5.0		5.0		
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0
Recall Mode	Max	Max	Max		None		Max
Act Effct Green (s)		60.1	80.1		14.8		
Actuated g/C Ratio		0.57	0.76		0.14		
v/c Ratio		0.30	0.44		0.68		
Control Delay		12.7	5.2		55.1		
Queue Delay		0.0	0.0		0.0		
Total Delay		12.7	5.2		55.1		
LOS		B	A		E		
Approach Delay		12.7	5.2		55.1		
Approach LOS		B	A		E		
Queue Length 50th (ft)		93	111		103		
Queue Length 95th (ft)		140	176		173		
Internal Link Dist (ft)		511	137		564		
Turn Bay Length (ft)							
Base Capacity (vph)		1768	2493		328		
Starvation Cap Reductn		0	0		0		
Spillback Cap Reductn		0	0		0		
Storage Cap Reductn		0	0		0		
Reduced v/c Ratio		0.30	0.44		0.51		

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 104.9
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 12.0 — Intersection LOS: B
Intersection Capacity Utilization 47.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Snowden Ave & N Highland Ave (Rte 9)



Intersection	
Int Delay, s/veh	0

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	0	0	0	185	168	0
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	6	6	2
Mvmt Flow	0	0	0	223	202	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	427	204	204	0	-	0
Stage 1	204	-	-	-	-	-
Stage 2	223	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	584	837	1368	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	582	836	1368	-	-	-
Mov Cap-2 Maneuver	582	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1368	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Lane Configurations							
Volume (vph)	8	734	608	64	162	19	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	11	11	13	13	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00	
Ped Bike Factor		1.00	1.00		1.00		
Frt			0.986		0.986		
Flt Protected		0.999			0.957		
Satd. Flow (prot)	0	3502	3308	0	1782	0	
Flt Permitted		0.948			0.957		
Satd. Flow (perm)	0	3323	3308	0	1782	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)			26		5		
Link Speed (mph)		30	30		30		
Link Distance (ft)		591	217		644		
Travel Time (s)		13.4	4.9		14.6		
Confl. Peds. (#/hr)	3			3		1	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Heavy Vehicles (%)	2%	3%	4%	2%	4%	2%	
Adj. Flow (vph)	8	749	620	65	165	19	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	757	685	0	184	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		13		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.04	1.04	0.96	0.96	
Turning Speed (mph)	15			15	15	9	
Number of Detectors	1	1	1		1		
Detector Template	Left	Thru	Thru		Left		
Leading Detector (ft)	20	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Detector 1 Position(ft)	0	0	0		0		
Detector 1 Size(ft)	20	50	50		50		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0		0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0		
Turn Type	Perm	NA	NA		Perm		
Protected Phases		2	6				1
Permitted Phases	2				4		
Detector Phase	2	2	6		4		
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0		7.0		7.0
Minimum Split (s)	12.0	12.0	12.0		12.0		12.0
Total Split (s)	65.0	65.0	85.0		25.0		20.0

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Total Split (%)	59.1%	59.1%	77.3%		22.7%		18%
Maximum Green (s)	60.0	60.0	80.0		20.0		15.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0
Lost Time Adjust (s)		0.0	0.0		0.0		
Total Lost Time (s)		5.0	5.0		5.0		
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0
Recall Mode	Max	Max	Max		None		Max
Act Effct Green (s)		60.1	80.1		15.4		
Actuated g/C Ratio		0.57	0.76		0.15		
v/c Ratio		0.40	0.27		0.70		
Control Delay		13.9	4.3		56.1		
Queue Delay		0.0	0.0		0.0		
Total Delay		13.9	4.3		56.1		
LOS		B	A		E		
Approach Delay		13.9	4.3		56.1		
Approach LOS		B	A		E		
Queue Length 50th (ft)		143	59		116		
Queue Length 95th (ft)		203	94		191		
Internal Link Dist (ft)		511	137		564		
Turn Bay Length (ft)							
Base Capacity (vph)		1892	2518		342		
Starvation Cap Reductn		0	0		0		
Spillback Cap Reductn		0	0		0		
Storage Cap Reductn		0	0		0		
Reduced v/c Ratio		0.40	0.27		0.54		

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 105.5			
Natural Cycle: 45			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 44.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Snowden Ave & N Highland Ave (Rte 9)

Intersection	
Int Delay, s/veh	0.2

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	1	2	2	229	74	1
Conflicting Peds, #/hr	2	3	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	6	2
Mvmt Flow	1	2	2	273	88	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	369	94	92	0	-	0
Stage 1	92	-	-	-	-	-
Stage 2	277	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	631	963	1503	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	627	959	1500	-	-	-
Mov Cap-2 Maneuver	627	-	-	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	767	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	9.4	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1500	-	815	-	-
HCM Lane V/C Ratio	0.002	-	0.004	-	-
HCM Control Delay (s)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Appendix E

Detailed Level of Service Analysis Results

- **2019 No-Build Conditions**

Bergmann associates

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Lane Configurations							
Volume (vph)	12	525	951	150	138	29	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	11	11	13	13	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00	
Ped Bike Factor		1.00	1.00		1.00		
Frt			0.980		0.976		
Flt Protected		0.999			0.960		
Satd. Flow (prot)	0	3339	3256	0	1687	0	
Flt Permitted		0.923			0.960		
Satd. Flow (perm)	0	3085	3256	0	1687	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)			42		8		
Link Speed (mph)		30	30		30		
Link Distance (ft)		591	217		644		
Travel Time (s)		13.4	4.9		14.6		
Confl. Peds. (#/hr)	1			1		1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	9%	8%	5%	3%	6%	22%	
Adj. Flow (vph)	12	541	980	155	142	30	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	553	1135	0	172	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		13		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.04	1.04	0.96	0.96	
Turning Speed (mph)	15			15	15	9	
Number of Detectors	1	1	1		1		
Detector Template	Left	Thru	Thru		Left		
Leading Detector (ft)	20	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Detector 1 Position(ft)	0	0	0		0		
Detector 1 Size(ft)	20	50	50		50		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0		0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0		
Turn Type	Perm	NA	NA		Perm		
Protected Phases		2	6				1
Permitted Phases	2				4		
Detector Phase	2	2	6		4		
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0		7.0		7.0
Minimum Split (s)	12.0	12.0	12.0		12.0		12.0
Total Split (s)	65.0	65.0	85.0		25.0		20.0

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Total Split (%)	59.1%	59.1%	77.3%		22.7%		18%
Maximum Green (s)	60.0	60.0	80.0		20.0		15.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0
Lost Time Adjust (s)		0.0	0.0		0.0		
Total Lost Time (s)		5.0	5.0		5.0		
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0
Recall Mode	Max	Max	Max		None		Max
Act Effct Green (s)		60.1	80.1		15.1		
Actuated g/C Ratio		0.57	0.76		0.14		
v/c Ratio		0.31	0.46		0.69		
Control Delay		12.9	5.4		55.6		
Queue Delay		0.0	0.0		0.0		
Total Delay		12.9	5.4		55.6		
LOS		B	A		E		
Approach Delay		12.9	5.4		55.6		
Approach LOS		B	A		E		
Queue Length 50th (ft)		97	118		106		
Queue Length 95th (ft)		144	183		178		
Internal Link Dist (ft)		511	137		564		
Turn Bay Length (ft)							
Base Capacity (vph)		1761	2489		327		
Starvation Cap Reductn		0	0		0		
Spillback Cap Reductn		0	0		0		
Storage Cap Reductn		0	0		0		
Reduced v/c Ratio		0.31	0.46		0.53		

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 105.2			
Natural Cycle: 40			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 12.3		Intersection LOS: B	
Intersection Capacity Utilization 48.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Snowden Ave & N Highland Ave (Rte 9)

Intersection	
Int Delay, s/veh	0

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	0	0	0	191	173	0
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	6	6	2
Mvmt Flow	0	0	0	230	208	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	440	210	210	0	-	0
Stage 1	210	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	574	830	1361	-	-	-
Stage 1	825	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	572	829	1361	-	-	-
Mov Cap-2 Maneuver	572	-	-	-	-	-
Stage 1	824	-	-	-	-	-
Stage 2	807	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1361	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Lane Configurations							
Volume (vph)	8	756	626	66	167	20	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	11	11	13	13	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00	
Ped Bike Factor		1.00	1.00		1.00		
Frt			0.986		0.986		
Flt Protected		0.999			0.957		
Satd. Flow (prot)	0	3502	3308	0	1782	0	
Flt Permitted		0.948			0.957		
Satd. Flow (perm)	0	3323	3308	0	1782	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)			26		5		
Link Speed (mph)		30	30		30		
Link Distance (ft)		591	217		644		
Travel Time (s)		13.4	4.9		14.6		
Confl. Peds. (#/hr)	3			3		1	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Heavy Vehicles (%)	2%	3%	4%	2%	4%	2%	
Adj. Flow (vph)	8	771	639	67	170	20	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	779	706	0	190	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		13		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.04	1.04	0.96	0.96	
Turning Speed (mph)	15			15	15	9	
Number of Detectors	1	1	1		1		
Detector Template	Left	Thru	Thru		Left		
Leading Detector (ft)	20	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Detector 1 Position(ft)	0	0	0		0		
Detector 1 Size(ft)	20	50	50		50		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0		0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0		
Turn Type	Perm	NA	NA		Perm		
Protected Phases		2	6				1
Permitted Phases	2				4		
Detector Phase	2	2	6		4		
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0		7.0		7.0
Minimum Split (s)	12.0	12.0	12.0		12.0		12.0
Total Split (s)	65.0	65.0	85.0		25.0		20.0

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Total Split (%)	59.1%	59.1%	77.3%		22.7%		18%
Maximum Green (s)	60.0	60.0	80.0		20.0		15.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0
Lost Time Adjust (s)		0.0	0.0		0.0		
Total Lost Time (s)		5.0	5.0		5.0		
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0
Recall Mode	Max	Max	Max		None		Max
Act Effct Green (s)		60.0	80.1		15.6		
Actuated g/C Ratio		0.57	0.76		0.15		
v/c Ratio		0.41	0.28		0.71		
Control Delay		14.1	4.4		56.6		
Queue Delay		0.0	0.0		0.0		
Total Delay		14.1	4.4		56.6		
LOS		B	A		E		
Approach Delay		14.1	4.4		56.6		
Approach LOS		B	A		E		
Queue Length 50th (ft)		149	63		121		
Queue Length 95th (ft)		210	98		197		
Internal Link Dist (ft)		511	137		564		
Turn Bay Length (ft)							
Base Capacity (vph)		1887	2512		341		
Starvation Cap Reductn		0	0		0		
Spillback Cap Reductn		0	0		0		
Storage Cap Reductn		0	0		0		
Reduced v/c Ratio		0.41	0.28		0.56		

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 105.7			
Natural Cycle: 45			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 45.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Snowden Ave & N Highland Ave (Rte 9)

Intersection	
Int Delay, s/veh	0.2

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	1	2	2	236	76	1
Conflicting Peds, #/hr	2	3	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	6	2
Mvmt Flow	1	2	2	281	90	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	380	96	95	0	-	0
Stage 1	94	-	-	-	-	-
Stage 2	286	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	622	960	1499	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	763	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	618	956	1497	-	-	-
Mov Cap-2 Maneuver	618	-	-	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	760	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	9.5	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1497	-	809	-	-
HCM Lane V/C Ratio	0.002	-	0.004	-	-
HCM Control Delay (s)	7.4	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Appendix F

Detailed Level of Service Analysis Results

- **2019 Full Build Conditions**

Bergmann associates

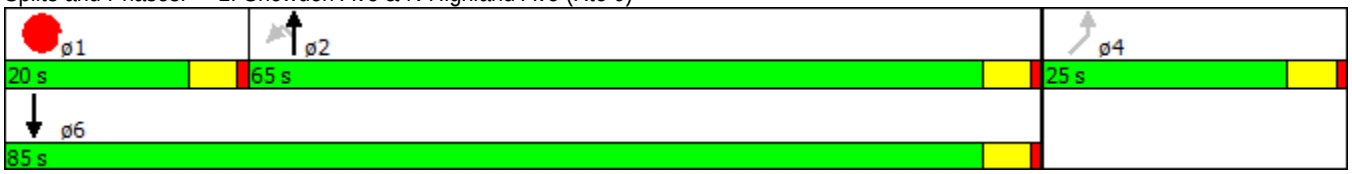
Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Lane Configurations							
Volume (vph)	26	525	951	168	184	65	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	11	11	13	13	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00	
Ped Bike Factor		1.00	1.00		1.00		
Frt			0.977		0.965		
Flt Protected		0.998			0.964		
Satd. Flow (prot)	0	3340	3246	0	1704	0	
Flt Permitted		0.858			0.964		
Satd. Flow (perm)	0	2872	3246	0	1704	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)			48		14		
Link Speed (mph)		30	30		30		
Link Distance (ft)		591	217		644		
Travel Time (s)		13.4	4.9		14.6		
Confl. Peds. (#/hr)	1			1		1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	5%	8%	5%	3%	5%	12%	
Adj. Flow (vph)	27	541	980	173	190	67	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	568	1153	0	257	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		13		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.04	1.04	0.96	0.96	
Turning Speed (mph)	15			15	15	9	
Number of Detectors	1	1	1		1		
Detector Template	Left	Thru	Thru		Left		
Leading Detector (ft)	20	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Detector 1 Position(ft)	0	0	0		0		
Detector 1 Size(ft)	20	50	50		50		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0		0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0		
Turn Type	Perm	NA	NA		Perm		
Protected Phases		2	6				1
Permitted Phases	2				4		
Detector Phase	2	2	6		4		
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0		7.0		7.0
Minimum Split (s)	12.0	12.0	12.0		12.0		12.0
Total Split (s)	65.0	65.0	85.0		25.0		20.0

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Total Split (%)	59.1%	59.1%	77.3%		22.7%		18%
Maximum Green (s)	60.0	60.0	80.0		20.0		15.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0
Lost Time Adjust (s)		0.0	0.0		0.0		
Total Lost Time (s)		5.0	5.0		5.0		
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0
Recall Mode	Max	Max	Max		None		Max
Act Effct Green (s)		60.1	80.1		18.4		
Actuated g/C Ratio		0.55	0.74		0.17		
v/c Ratio		0.36	0.48		0.85		
Control Delay		14.5	6.4		67.4		
Queue Delay		0.0	0.0		0.0		
Total Delay		14.5	6.4		67.4		
LOS		B	A		E		
Approach Delay		14.5	6.4		67.4		
Approach LOS		B	A		E		
Queue Length 50th (ft)		113	148		166		
Queue Length 95th (ft)		152	187		#297		
Internal Link Dist (ft)		511	137		564		
Turn Bay Length (ft)							
Base Capacity (vph)		1589	2407		325		
Starvation Cap Reductn		0	0		0		
Spillback Cap Reductn		0	0		0		
Storage Cap Reductn		0	0		0		
Reduced v/c Ratio		0.36	0.48		0.79		

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 108.5			
Natural Cycle: 45			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Snowden Ave & N Highland Ave (Rte 9)



Intersection	
Int Delay, s/veh	2.5

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	82	9	4	191	173	32
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	6	6	2
Mvmt Flow	99	11	5	230	208	39

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	470	230	249	0	-	0
Stage 1	230	-	-	-	-	-
Stage 2	240	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	552	809	1317	-	-	-
Stage 1	808	-	-	-	-	-
Stage 2	800	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	548	808	1317	-	-	-
Mov Cap-2 Maneuver	548	-	-	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	795	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	12.9	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1317	-	566	-	-
HCM Lane V/C Ratio	0.004	-	0.194	-	-
HCM Control Delay (s)	7.7	0	12.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

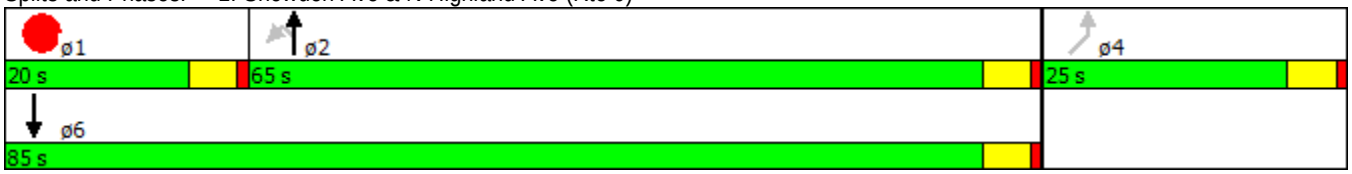
Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Lane Configurations							
Volume (vph)	49	756	626	118	199	46	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	11	11	13	13	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00	
Ped Bike Factor		1.00	1.00		1.00		
Frt			0.976		0.975		
Flt Protected		0.997			0.961		
Satd. Flow (prot)	0	3496	3273	0	1771	0	
Flt Permitted		0.853			0.961		
Satd. Flow (perm)	0	2991	3273	0	1771	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)			52		9		
Link Speed (mph)		30	30		30		
Link Distance (ft)		591	217		644		
Travel Time (s)		13.4	4.9		14.6		
Confl. Peds. (#/hr)	3			3		1	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Heavy Vehicles (%)	2%	3%	4%	2%	4%	2%	
Adj. Flow (vph)	50	771	639	120	203	47	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	821	759	0	250	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		13		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.04	1.04	0.96	0.96	
Turning Speed (mph)	15			15	15	9	
Number of Detectors	1	1	1		1		
Detector Template	Left	Thru	Thru		Left		
Leading Detector (ft)	20	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Detector 1 Position(ft)	0	0	0		0		
Detector 1 Size(ft)	20	50	50		50		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0		0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0		
Turn Type	Perm	NA	NA		Perm		
Protected Phases		2	6				1
Permitted Phases	2				4		
Detector Phase	2	2	6		4		
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0		7.0		7.0
Minimum Split (s)	12.0	12.0	12.0		12.0		12.0
Total Split (s)	65.0	65.0	85.0		25.0		20.0

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Total Split (%)	59.1%	59.1%	77.3%		22.7%		18%
Maximum Green (s)	60.0	60.0	80.0		20.0		15.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0
Lost Time Adjust (s)		0.0	0.0		0.0		
Total Lost Time (s)		5.0	5.0		5.0		
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0
Recall Mode	Max	Max	Max		None		Max
Act Effct Green (s)		60.0	80.0		18.1		
Actuated g/C Ratio		0.56	0.74		0.17		
v/c Ratio		0.49	0.31		0.83		
Control Delay		16.3	4.9		64.4		
Queue Delay		0.0	0.0		0.0		
Total Delay		16.3	4.9		64.4		
LOS		B	A		E		
Approach Delay		16.3	4.9		64.4		
Approach LOS		B	A		E		
Queue Length 50th (ft)		182	79		163		
Queue Length 95th (ft)		235	103		#281		
Internal Link Dist (ft)		511	137		564		
Turn Bay Length (ft)							
Base Capacity (vph)		1660	2436		335		
Starvation Cap Reductn		0	0		0		
Spillback Cap Reductn		0	0		0		
Storage Cap Reductn		0	0		0		
Reduced v/c Ratio		0.49	0.31		0.75		

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 108.1
Natural Cycle: 55
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 18.2 Intersection LOS: B
Intersection Capacity Utilization 69.8% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Snowden Ave & N Highland Ave (Rte 9)



Intersection	
Int Delay, s/veh	1.8

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	58	7	10	236	76	93
Conflicting Peds, #/hr	2	3	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	6	2
Mvmt Flow	69	8	12	281	90	111

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	454	151	204	0	-	0
Stage 1	149	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	564	895	1368	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	556	891	1366	-	-	-
Mov Cap-2 Maneuver	556	-	-	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	739	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	12.2	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1366	-	579	-	-
HCM Lane V/C Ratio	0.009	-	0.134	-	-
HCM Control Delay (s)	7.7	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Appendix G

Detailed Level of Service Analysis Results

- **2019 Full Build with Signal Retiming**

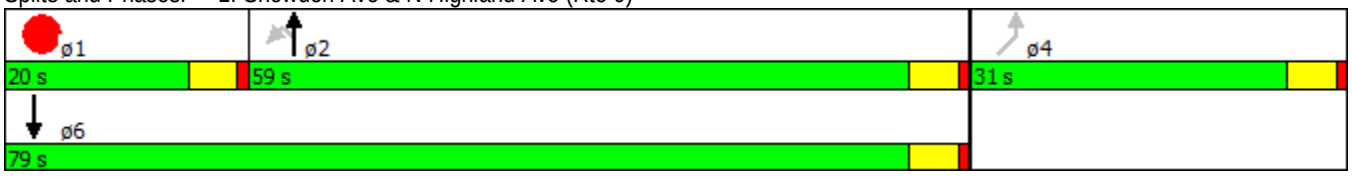
Bergmann associates

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Lane Configurations							
Volume (vph)	26	525	951	168	184	65	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	11	11	13	13	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00	
Ped Bike Factor		1.00	1.00		1.00		
Frt			0.977		0.965		
Flt Protected		0.998			0.964		
Satd. Flow (prot)	0	3340	3246	0	1704	0	
Flt Permitted		0.859			0.964		
Satd. Flow (perm)	0	2875	3246	0	1704	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)			40		15		
Link Speed (mph)		30	30		30		
Link Distance (ft)		591	217		644		
Travel Time (s)		13.4	4.9		14.6		
Confl. Peds. (#/hr)	1			1		1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	5%	8%	5%	3%	5%	12%	
Adj. Flow (vph)	27	541	980	173	190	67	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	568	1153	0	257	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		13		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.04	1.04	0.96	0.96	
Turning Speed (mph)	15			15	15	9	
Number of Detectors	1	1	1		1		
Detector Template	Left	Thru	Thru		Left		
Leading Detector (ft)	20	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Detector 1 Position(ft)	0	0	0		0		
Detector 1 Size(ft)	20	50	50		50		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0		0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0		
Turn Type	Perm	NA	NA		Perm		
Protected Phases		2	6				1
Permitted Phases	2				4		
Detector Phase	2	2	6		4		
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0		7.0		7.0
Minimum Split (s)	12.0	12.0	12.0		12.0		12.0
Total Split (s)	59.0	59.0	79.0		31.0		20.0

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Total Split (%)	53.6%	53.6%	71.8%		28.2%		18%
Maximum Green (s)	54.0	54.0	74.0		26.0		15.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0
Lost Time Adjust (s)		0.0	0.0		0.0		
Total Lost Time (s)		5.0	5.0		5.0		
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0
Recall Mode	Max	Max	Max		None		Max
Act Effct Green (s)		54.1	74.2		19.5		
Actuated g/C Ratio		0.52	0.72		0.19		
v/c Ratio		0.38	0.49		0.77		
Control Delay		16.4	7.6		53.7		
Queue Delay		0.0	0.0		0.0		
Total Delay		16.4	7.6		53.7		
LOS		B	A		D		
Approach Delay		16.4	7.6		53.7		
Approach LOS		B	A		D		
Queue Length 50th (ft)		113	149		154		
Queue Length 95th (ft)		173	237		242		
Internal Link Dist (ft)		511	137		564		
Turn Bay Length (ft)							
Base Capacity (vph)		1501	2333		439		
Starvation Cap Reductn		0	0		0		
Spillback Cap Reductn		0	0		0		
Storage Cap Reductn		0	0		0		
Reduced v/c Ratio		0.38	0.49		0.59		

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 103.7			
Natural Cycle: 45			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Snowden Ave & N Highland Ave (Rte 9)



Intersection	
Int Delay, s/veh	2.5

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	82	9	4	191	173	32
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	6	6	2
Mvmt Flow	99	11	5	230	208	39

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	470	230	249	0	-	0
Stage 1	230	-	-	-	-	-
Stage 2	240	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	552	809	1317	-	-	-
Stage 1	808	-	-	-	-	-
Stage 2	800	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	548	808	1317	-	-	-
Mov Cap-2 Maneuver	548	-	-	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	795	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	12.9	0.2	0
HCM LOS	B		

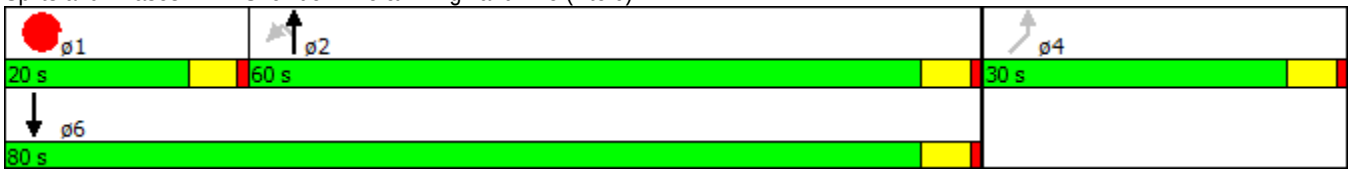
Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1317	-	566	-	-
HCM Lane V/C Ratio	0.004	-	0.194	-	-
HCM Control Delay (s)	7.7	0	12.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Lane Configurations							
Volume (vph)	49	756	626	118	199	46	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	11	11	13	13	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00	
Ped Bike Factor		1.00	1.00		1.00		
Frt			0.976		0.975		
Flt Protected		0.997			0.961		
Satd. Flow (prot)	0	3496	3273	0	1771	0	
Flt Permitted		0.854			0.961		
Satd. Flow (perm)	0	2995	3273	0	1771	0	
Right Turn on Red				Yes		Yes	
Satd. Flow (RTOR)			44		10		
Link Speed (mph)		30	30		30		
Link Distance (ft)		591	217		644		
Travel Time (s)		13.4	4.9		14.6		
Confl. Peds. (#/hr)	3			3		1	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Heavy Vehicles (%)	2%	3%	4%	2%	4%	2%	
Adj. Flow (vph)	50	771	639	120	203	47	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	821	759	0	250	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)		0	0		13		
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.04	1.04	0.96	0.96	
Turning Speed (mph)	15			15	15	9	
Number of Detectors	1	1	1		1		
Detector Template	Left	Thru	Thru		Left		
Leading Detector (ft)	20	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Detector 1 Position(ft)	0	0	0		0		
Detector 1 Size(ft)	20	50	50		50		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0		0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0		
Turn Type	Perm	NA	NA		Perm		
Protected Phases		2	6				1
Permitted Phases	2				4		
Detector Phase	2	2	6		4		
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0		7.0		7.0
Minimum Split (s)	12.0	12.0	12.0		12.0		12.0
Total Split (s)	60.0	60.0	80.0		30.0		20.0

Lane Group	NBL	NBT	SBT	SBR	NEL	NER	ø1
Total Split (%)	54.5%	54.5%	72.7%		27.3%		18%
Maximum Green (s)	55.0	55.0	75.0		25.0		15.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0
Lost Time Adjust (s)		0.0	0.0		0.0		
Total Lost Time (s)		5.0	5.0		5.0		
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0
Recall Mode	Max	Max	Max		None		Max
Act Effct Green (s)		55.1	75.1		18.9		
Actuated g/C Ratio		0.53	0.72		0.18		
v/c Ratio		0.52	0.32		0.76		
Control Delay		18.0	5.7		54.0		
Queue Delay		0.0	0.0		0.0		
Total Delay		18.0	5.7		54.0		
LOS		B	A		D		
Approach Delay		18.0	5.7		54.0		
Approach LOS		B	A		D		
Queue Length 50th (ft)		179	77		153		
Queue Length 95th (ft)		261	127		240		
Internal Link Dist (ft)		511	137		564		
Turn Bay Length (ft)							
Base Capacity (vph)		1586	2376		434		
Starvation Cap Reductn		0	0		0		
Spillback Cap Reductn		0	0		0		
Storage Cap Reductn		0	0		0		
Reduced v/c Ratio		0.52	0.32		0.58		

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 104			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 17.8		Intersection LOS: B	
Intersection Capacity Utilization 69.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Snowden Ave & N Highland Ave (Rte 9)



Intersection	
Int Delay, s/veh	1.8

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	58	7	10	236	76	93
Conflicting Peds, #/hr	2	3	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	6	2
Mvmt Flow	69	8	12	281	90	111

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	454	151	204	0	-	0
Stage 1	149	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	564	895	1368	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	556	891	1366	-	-	-
Mov Cap-2 Maneuver	556	-	-	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	739	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	12.2	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1366	-	579	-	-
HCM Lane V/C Ratio	0.009	-	0.134	-	-
HCM Control Delay (s)	7.7	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

VILLAGE OF OSSINING	**BOARD OF TRUSTEES**
In the Matter of the Application of **OSSINING RIVER ASSOCIATES, INC.**, Petitioner, To adopt zone text amendments which would be applicable in the CDD and PW zoning Districts	**PETITION** **to** **Adopt Zone Text Amendments**

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